

American Artisan

Founded 1880

The Warm Air Heating and Sheet Metal Journal

Vol. 97, No. 14

CHICAGO, APRIL 6, 1929

\$2.00 Per Year

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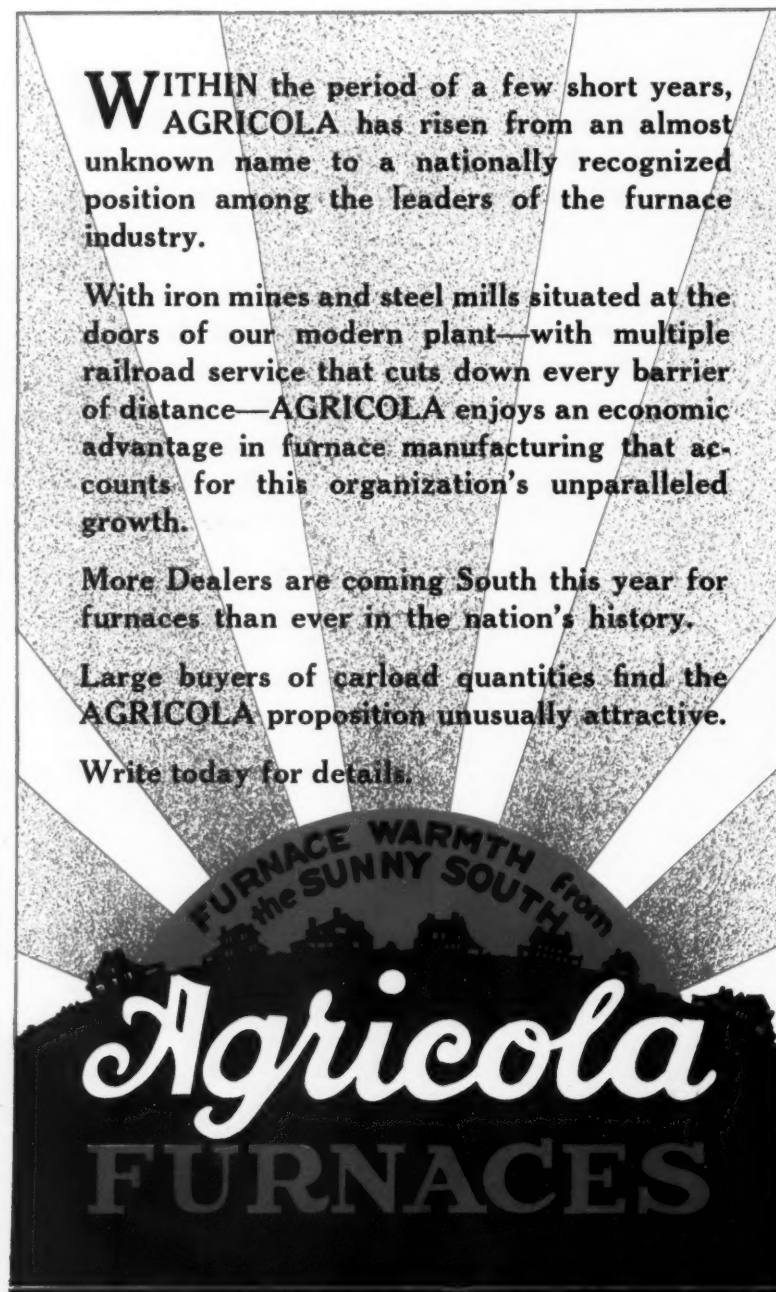
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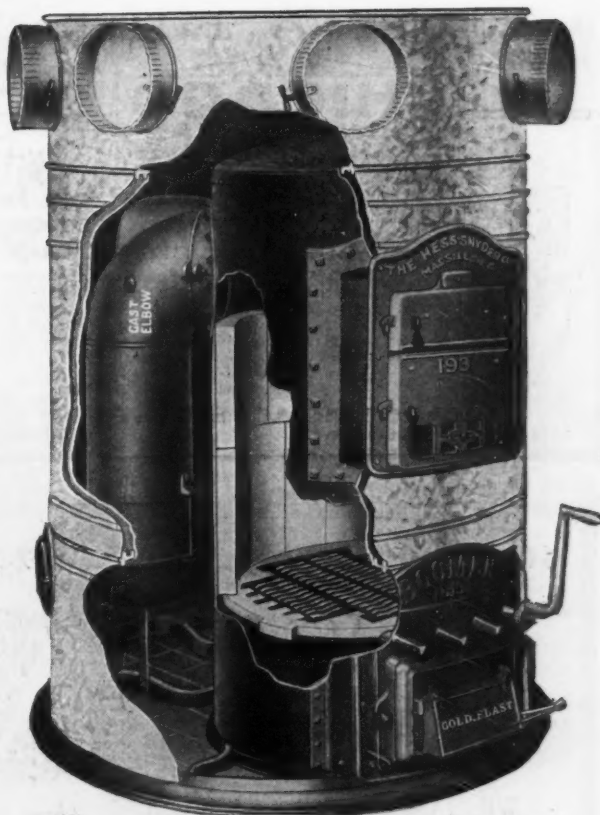
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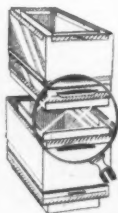
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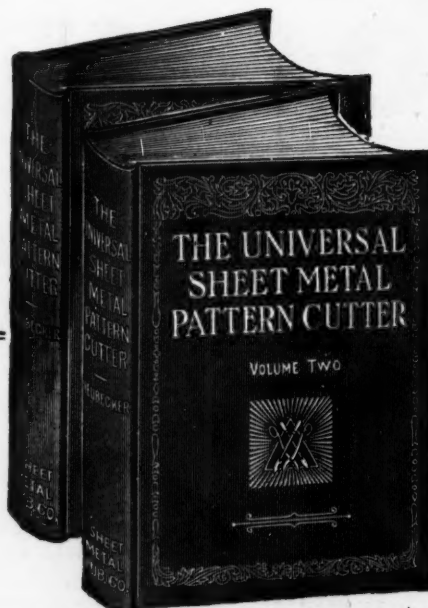
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Founded 1880

Published to Promote
Better
Warm Air Heating
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American Artisan

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Table of Contents

Page	Page
Competitive Industry Takes Another Swat at Warm Air 11	William E. Feiten Thinks Contractor Should Remain in Own Territory 19
Constructing Pattern for Sheet Metal Kerosene Stove Hood, by O. W. Kothe 12	Carnegie Institute to Teach Sheet Metal Drafting and Welding 19
New Power Squaring Shear Added to Line of Dreis & Krump 13	Evidence of Return to Popularity of Metal Cornice and Marquise, by L. C. Leemkueler 20-21
Louisville Women Raise Money for Baltimore Trip 13	Estimating Necessary Materials, by J. E. Olsteadt 22
Scientific Merchandising Warm Air and Sheet Metal Industries' Greatest Present Need, by George Duerr 14	Illinois Sheet Metal Contractors Have Splendid Program 23
New Insulating Board to Be Made in Chicago. 15	Baltimore Women Planning Reception 23
Warm Air Furnace Manufacturers Do Not Heed Undercurrents in Industry 16	Heating Systems Corporation Formed 24
Statement of Ownership 18	Notes and Queries 24
Patents Granted on Standard Ventilator 18	Zinc Workers' Manual Completed 24
Pluth Boys Develop New Type Robber 18	Thermo Control for Warm Air Furnaces New Heat Regulator 25
Who's Who, Where! 19	Random Notes and Sketches, by Sidney Arnold 26
Zeh & Hahnemann Company Develop New Press for Forming 19	Markets 28

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A great deal of the joy of life consists in doing perfectly, or at least to the best of one's ability, everything which he attempts to do.

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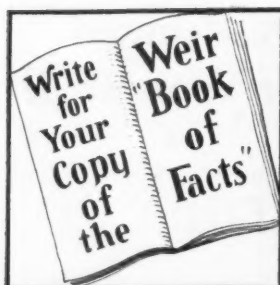
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American Artisan

The Warm Air Heating and Sheet Metal Journal



Vol. 97

CHICAGO, APRIL 6, 1929

No. 14

Competitive Industry Takes Another Swat at Warm Air

Strengthening Weak Points of Its Own Product and Telling Public About It

ANOTHER prop has been knocked out from under the warm air heating industry.

If you do not believe that statement, read the following news item which appeared on the building page of the *Chicago Evening Post* under date of March 27, 1929:

Radiator Is Made Invisible by New Method

"Invisible radiators, one of the newest improvements in the building art, are now being installed in many homes of all sizes, it was made known at the convention of the American Society of Heating and Ventilating Engineers in St. Louis last week.

"The time is coming when visible heating apparatus, except open fireplaces, which will be retained for their beauty, will be as obsolete as gas chandeliers," declared G. E. Otis, heating engineer of Moline, Ill., in his address at the convention.

"Most important feature of the invisible radiator, from the home builder's standpoint, is that it is made to be installed in the ordinary four-inch wall," said Mr. Otis. "There is an opening two inches high and the width of the distance between two studs at the floor level. The floor is continued to the back of the opening, which is only four inches deep.

"This is where the air enters to be warmed. The grille where the warmed air comes out is high up on the wall, out of the way, or may be under a window. The grille is ten inches high, set flush with the wall and is almost unnoticeable. What is inside the wall is a sheet steel

casting four inches deep and of the height desired. The radiator is at the bottom just above the floor level. It consists of a solid core, cast all in one piece and surrounded by copper fins, which give it a very

The warm air heating industry could offset this type of publicity very easily if it would let the public know that instead of the necessity for invisible radiators it can give the public a system that has no radiators at all.

No time should be lost in telling the public just how much extra the construction costs are going to be when special places must be made in the walls for the invisible radiators. Why not get busy and give the warm air heating industry a little favorable publicity.

fast heat diffusing surface. Control is by a damper. No other part of the radiator need ever be touched, says the article.

"The invisible radiator is a real lifesaver for the interior decorator. It is clean and cannot make smudges on walls or draperies. All the wall space can be used. Furniture can be placed anywhere and nothing is out of harmony."

Such advertising as this in the news columns of a daily paper is the most valuable advertising that an industry can get, but is there any evidence that the warm air heating industry is taking steps to counteract this sort of thing? No, there is

not. And there isn't likely to be in the Chicago territory if past performance of the warm air heating in this territory is any criterion.

If there ever was a time when the warm air heating industry needed to get together on a cooperative basis for the purpose of letting the public know that it is in existence, that time is now. Because unless they do get busy and give the public some definite evidence that their product has a superior merit, the industry's main competitor is going to have them licked.

"Invisible radiators" knocks one of the most valuable selling points that the warm air heating industry has out from under it. One by one the steam and hot water people are overcoming the inherent defects of their system and they are not slow to tell the people whenever they have overcome these defects.

The fact that the steam and hot water people have made an effort to make their radiators invisible is an open confession that they have recognized that as one of the weak points in their system.

Let's get aroused to the point of doing something. Let's not sit back and let the biggest competitor the warm air heating industry has come into our territory and walk away with the bacon. Boys, your backs are to the wall. Let's see what kind of swordsmanship you can display from now on.

Another factor which should be given attention is the unfavorable publicity the warm air heating system receives whenever a fire occurs whose origin is not certain.

Constructing Pattern for Sheet Metal Kerosene Stove Hood

In Response to Inquiry from C. A. Wenck, Cold Spring, Minnesota

By O. W. KOTHE, Principal, St. Louis Technical Institute

RESPONDING to the inquiry of C. A. Wenck, Cold Spring, Minnesota, the attached drawing will show how to develop the patterns for such a hood.

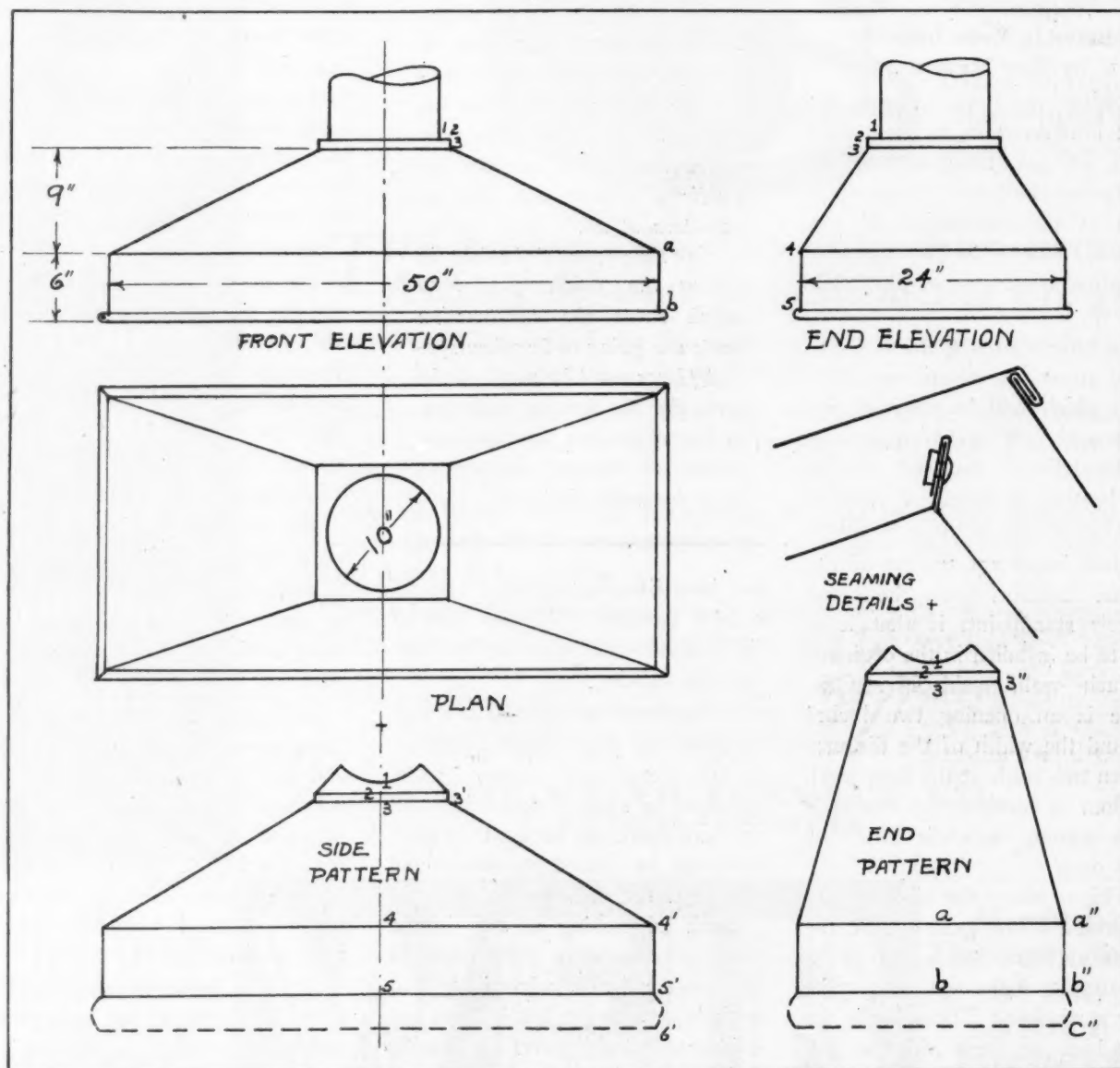
In practice, the front elevation is first drawn, showing the length of hood and the height of each member. This will control the slant line 3-a. The end elevation can be drawn over on the side, as we show it, or in shop practice, this view can be

laid right on top of the front elevation since the top and stack are the same size. This saves space and also effort and holds the work more compact.

On the sketch submitted the outlet vent pipe was listed as a 6-inch pipe. This is altogether too small for such a large hood, and especially where it must operate by gravity. So a 10-inch pipe is substituted. A 12-inch would be still bet-

ter. In practice a plan view is not needed, since we can get all of our measurements from the front and end elevations.

To lay out the pattern for side, pick the girth from end elevation, as 1-2-3-4-5, and set it in numerical order on a center line as in pattern. Then draw horizontal stretchout lines, and with trammel points of rule, pick the half width from center line of front elevation and set



Patterns for Kerosene Stove Hood

them as 3-3', 4-4', 5-5'. This enables drawing the outline for pattern. Edges for the base roll must be allowed extra, to suit the kind of reinforcement to be used. Where a rod is used, allow two and one-half times the diameter of rod, and that will close in the metal nicely.

For the end pattern, pick the girth from front elevation as 1-2-3-a-b, and set in pattern, and draw horizontal lines. Then develop the pattern by projection from end elevation, as we did in this case, or use a center line as we did in side pattern.

Edges for assembling must be allowed extra, whether the hip lines will be double seamed or standing seam, as details show. Many of these mechanical details depend on the desire of the man doing the construction.

New Power Squaring Shear Added to Dreis & Krump Mfg. Co., Chicago

Dreis & Krump Manufacturing Company, 7404 South Loomis Street, Chicago, have added the manufacture of all-steel squaring shears to their present line of steel bending equipment.

They are a radical departure from the old cast iron type, being entirely of steel plate construction, electric welded throughout. They are unbreakable and non-deflecting. There

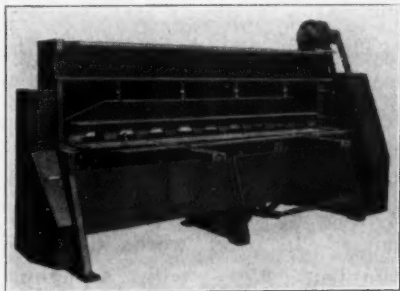


Figure No. 1

are Timken roller bearings on the flywheel shaft. Super uniform pressure hold-down assures a uniform amount of pressure on the metal before the cutting operation is started and the same pressure is held until the completion of the stroke, say the manufacturers.

Standard equipment includes a centralized system of lubrication operated with hand plunger which oils the slides and bearings with the exception of the Timken roller bear-

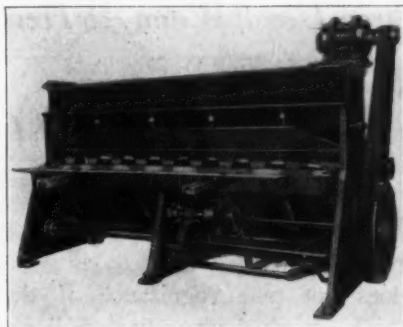


Figure No. 2

ings which require greasing, and clutch, which is either equipped with oil or grease cups.

Another new feature is that the shear is completely guarded on both ends, front and rear, with heavy sheet steel guards.

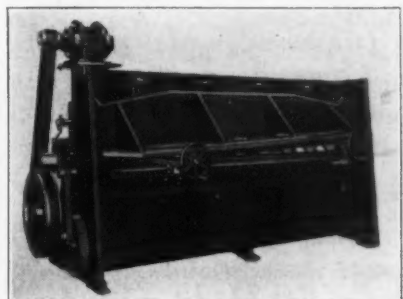


Figure No. 3

The three views shown are of the under drive type. Illustration No. 1 shows shear complete with front and side guards. Illustration No. 2 shows shear with guards removed. Illustration No. 3, rear view, illustrates the belted motor drive type of motor arrangement, crank gear drive, construction of the upper knife bar, screw adjusting back gauge equipped with steel scale and pointer, and rear guard which keeps the working parts free from all dirt, scale and entanglement with scrap and trimmings.

Chicago steel power shears are made in lengths from 3 feet to 12 feet, to cut from 14-gauge to one-half-inch mild steel.

Write for catalogs on this new material.

Maurice J. Mackin Resigns from International Heater Company

Maurice J. Mackin, brother of T. Reid Mackin, manager of the Chicago branch of the International Heater Company, has resigned his position with the International Heater Company to enter the automobile business.

Mr. Mackin had been with International for five years, the last three of which he spent in calling on the Chicago city trade of the company. Because of his relationship and similarity of name with the Chicago branch manager, some confusion has arisen, many folks thinking that T. Reid Mackin had left the company.

This is not the case, however, as T. Reid writes that he is still at the post of duty to which he was elevated at the time Les Taylor, who formerly held that position, was made a vice-president of the company and taken to Utica, New York.

How Louisville Women Raise Money to Attend National Convention

The Women's Auxiliary to the Louisville, Kentucky, Sheet Metal Contractors' Association has partially solved the problem of financing the trip to the Baltimore convention in June. Some time ago they organized the Go-A-Way Club. Card parties and other social affairs are given throughout the year under the auspices of this club and the money raised in this manner is used by the delegates chosen to attend the national convention.

On April 6, Miss Mary O'Leary entertained with a card party, in order to swell further the travelers' fund of the Go-A-Way Club. Miss O'Leary is president of the Women's Auxiliary to the National Association of Sheet Metal Contractors.

AMERICAN ARTISAN would like to receive notes about the doings of the Women's Auxiliaries to the sheet metal contractors' associations in all section of the country. Just tell us in brief what you are doing.

Scientific Merchandising Warm Air and Sheet Metal Industries' Greatest Present Need

People of Country Must Be Sold on Benefits to Be Derived from Use of Warm Air Heating System

By GEORGE DUERR

SCIENTIFIC merchandising wins. In a very few weeks the Palmolive Soap Company will celebrate the completion of a skyscraper of its own, erected in the very heart of Chicago's newest and most rapidly developing mercantile section—Streaterville. That new building will stand in all its glory and splendor a mighty tribute to the merchandising methods of the company.

It is considerably less than a decade ago that this company began selling the women of the country an idea—that of keeping their "School-girl Complexions." We all know the success with which the idea met. The idea was successful not so much because it was blazoned over the entire country, but more because it told the women how to do something which they are all eager to do themselves—a master stroke in scientific merchandising.

The fact is clear that the warm air heating and sheet metal industries are not getting a share of the public's dollars commensurate with the service rendered. And the reason can be duly ascribed to the use of incorrect merchandising methods or an utter lack of them. Nothing else.

Warm air furnace and sheet metal men for the most part appear to be incapable of correctly analyzing the problem that faces them. When they set out to sell a warm air heating plant, for instance, they are more apt than not to try to impress upon the prospect the selling points contained in the manufacturer's catalog, thinking that, since the manufacturer saw fit to set these points down, they must be the right thing to use. Result: the customer is unimpressed, because he is not

primarily interested in the physical construction of the furnace.

No man, regardless of what he is selling, can profess to be using correct merchandising methods who does not take cognizance of the things in which the customer is interested. All men and women are primarily interested in themselves.

SALESMANSHIP IN A NEW LIGHT

I like to regard a salesman as a teacher. He is an influencer of men's minds in the right direction—in the direction of benefits, service, profits. Therefore remember, when you meet a prospect who tells you he is not interested, just let yourself thrill to the thought that a pupil stands before you, and then direct all your power toward turning him in favor of you and your proposition. But don't force him—lead him.

Therefore, to be successful in selling them anything, the salesman must show them the relation between the product he is trying to sell them and their own interests; he must show them in what way the product will help them to save money, to enjoy greater freedom from drudgery, to secure and maintain perfect health, to enjoy greater comfort. If the salesman can present his story in such a way that the prospect is won over to his way of thinking—that ownership of the product will make possible certain things or to enjoy greater freedom the sale follows as a natural consequence.

On the other hand, when the salesman goes out to sell a prospect on the idea of buying a certain

product because some manufacturer thinks it's the greatest product that was ever built, the customer's attitude is: well, what the hell of it?

We had an election in Chicago the other day. And as I walked down the street on my way to work I was accosted by various election workers, the burden of whose cry was, "Help my candidate win the election." And immediately the thought entered my mind, "what for? Why should I help your candidate win the election? In what way will I be benefited if your candidate does win the election?"

The wise politician would have gone about getting my vote in a far different manner. He would have in his approach to me answered those questions before they were ever provoked in my mind. He would have endeavored to show me why it would be to my interests to have his candidate elected to office. And the wise salesman in trying to interest a prospect in his goods would endeavor to base his approach upon some such premise. And those who do are invariably successful.

The whole idea in doing this would be to show me the benefits that I would receive from ownership of the product, while at the same time keeping the thought of a competitor's product entirely out of range. In other words the good salesman starts with something which he already knows—that you are primarily interested in yourself—and works from that toward the desired goal—that of selling you his product—by getting you to believe that ownership of that product will benefit you in some way. In the case of warm air heating it would be greater health and comfort.

Jack Stowell, speaking at the

dealers' meeting of the Premier Warm Air Heater Company, gave a very good presentation of this idea in saying, "Do you analyze your selling from the standpoint of customer interest? That is, if you were selling you, would the sales

discovered and very definitely established that human beings react in a fairly uniform manner to certain stimuli. This knowledge can be and is being used to good advantage by merchandisers and advertisers in other phases of industry and retail-

ARTISAN for March 2, 1929, George C. Jordan, 667 Illinois Avenue, Milwaukee, Wisconsin, had some very interesting comment to make regarding the fact that newspapers fail to distinguish between a furnace and other types of heating apparatus whenever a fire causes damage to a dwelling, an industrial plant or commercial establishment. The article also contained a letter which Mr. Jordan wrote to the *Milwaukee Journal* and which that medium published in full. Mr. Jordan is Wisconsin sales representative of the Midland Furnace Company, Columbus, Ohio.

New Insulating Board to Be Made in Chicago

A new insulating board to be made by the Chicago Mill & Lumber Corporation looms as an important material in the heating and ventilating field. The new product to be made entirely of Southern hardwood, will be manufactured at Greenville, Mississippi, in a plant on which construction work was started this week. Production of the in-

PHONE SOUTH
SHORE 1903 OR

SIGN AND RETURN THIS CARD TODAY!

: Over 60,000 Feet of Gutter Replaced by Us Last Year! :

SOUTH SHORE SHEET METAL WORKS:

Without obligation, you may send your estimator to figure the sheet metal work that I have checked below:

- | | |
|--|---|
| <input type="checkbox"/> Repair Downspouts | <input type="checkbox"/> New Downspouts |
| <input type="checkbox"/> Repair Gutters | <input type="checkbox"/> New Gutters |
| <input type="checkbox"/> Repair Roof | <input type="checkbox"/> New Roof |

NAME _____

ADDRESS _____

PHONE _____

No Postage Stamp Required Just Sign Your Name and Drop in Letter Box

Card Used by South Shore Sheet Metal Works, 2214 East 75th Street, Chicago, to Get Spring Business

talk presented interest you as a buyer?" That is an excellent way to check up on yourself. Put yourself in the buyer's place and then go over the selling points as you present them. Are they convincing, do they ring true, do they satisfy you that the ownership of the product would result to your advantage?

The same is true of your business. Did you ever try to find out what other people think of your business, what they think of your service, and what they think of your ability as a business man? This reminds me of the story of the colored boy who had a habit of calling his employer on the telephone periodically and asking him if he wanted a boy. When the employer replied, no, that he had a good boy and was in no need of a second, the colored boy went a little further and asked, "Is the boy you now have entirely satisfactory?" and when he got the proper assurance he hung up and went on his way. There's a great deal of homely philosophy in that yarn which furnace and sheet metal men could take to heart.

There is a well defined science to merchandising. The fact has been

ing. It will solve the main problem of the warm air heating and sheet metal industry if correctly applied. Let's get busy and reform our merchandising methods. The

SOUTH SHORE SHEET METAL WORKS

LET IT RAIN!

2214-16 E. 75th ST. SOUTH SHORE 1903

One Side of South Shore Sheet Metal Works Card Sent Out to Selected List

warm air heating and sheet metal industries deserve a much better place in the scheme of things than they now occupy. Correct merchandising methods will put them in that place.

**George C. Jordan,
Milwaukee, a
Midland Traveler**

In the issue of AMERICAN

insulating board will start in September at a rate which calls for a yearly output of 75,000,000 square feet. Capital behind the enterprise is \$1,500,000. This was the gist of the statement made today by Walter P. Paepcke, president of the corporation.

Warm air heating contractors should study insulation.

Warm Air Furnace Manufacturers Do Not Heed Undercurrents in Industry

Must Work Hard to Retain Sympathy of Dealers and Salesmen

IT WOULD appear that some warm air furnace manufacturers are not as popular with their salesmen or their dealers as they might imagine. There seems to be an undercurrent of dissatisfaction with the practices of many furnace manufacturers that has permeated to a considerable extent the warm air heating industry which furnace manufacturers will do well to heed.

A recent issue of *AMERICAN ARTISAN* carried an article asking the question whether a furnace salesman is handicapped or encouraged by a drawing account. At that time several furnace manufacturers stated their views and practices in regard to remunerating salesmen.

But it seems that the dealers and salesmen have an entirely different story to tell regarding some of the practices in which the manufacturers indulge, and they have expressed themselves in no uncertain terms in letters to us.

It is, of course, impossible to publish all of these letters, but there are a few which show their general trend.

Here's one from a warm air furnace man in the east. He writes as follows, and gloom drips off the very edges of his paper:

"A House Divided Against Itself Cannot Stand"

"A long time has elapsed since that historic statement was made, and the warm air furnace industry has found that there is a lot of truth in it.

"In a recent issue *AMERICAN ARTISAN* requested the opinion of salesmen on the various methods of remuneration now in vogue.

"Before going into this, let's have a little diagnosis to see if we can find out why furnace salesmen are paid so little. There seems to have been two periods; one during which manufacturers—due to greed and

selfishness—didn't pay, and the present period where they have to sell goods so close that they probably cannot pay. Maybe the first condition brought about the second.

"If manufacturers, instead of waging this death struggle to see who could hog the most business, had dropped their petty envy and jealousy and worked for the good of the whole industry, they wouldn't be where they are today.

Sees Manufacturers Fighting Each Other

"If they had cooperated and donated even \$1 for each furnace they made there would have been an annual advertising fund of around half a million dollars. And this amount used to tell the world about the merits of warm air heat would have put the business on a high plane. But they fought each other, instead of fighting the common enemy—steam and hot water.

"This belligerent attitude permeated the whole structure, salesmen and dealers taking the cue. The way rival furnaces are denounced is amusingly tragic. The prospect is bewildered by the conflicting claims, charges and counter charges. While he ponders the question he may pick up his favorite magazine and see the merits of radiator heat pictured and described in a convincing, dignified manner. I wonder how many prospects have been turned from warm air heat in this way?

Salesmen Poorly Trained for Job

"Another mistake made by many manufacturers is sending men on the road who know little or nothing about the business. The new man usually has a few days at the factory. He is then given a portfolio and told to step on the gas. His employers have put their reputation in the hands of this green man. The

havoc he can cause is a matter of history. Unfortunately, it discredits the whole industry.

"In any business the chief problem is to get good men, and one would think that a manufacturer would try to keep able men. But many of them do not. They play the age-old game of trying to get something for nothing.

"Loyalty to a house is the result of fair treatment and a good income. Most manufacturers give their men neither. The turnover in furnace salesmen is appalling. It has gotten to be a joke among the dealers. It is another weak link in the chain.

"Notice the amount of business turned in by men who have covered their territories for a long time and the absence of serious complaints among their customers. Compare it with sections covered by the boys who stay six months or a year or two. The old-timers feel a sense of permanence and take pride in their work and build for the future. You can't expect a fly-by-night, who has little practical knowledge anyway, to build up a paying territory. His one object is to sell. He sits down with a dealer equally ignorant and they figure out a paper profit that does not exist in reality. They cut the price to the bone. Other dealers drop their prices and then—chaos.

Several Good Outlets Closed

"It would be interesting to know how many dealers have gone bankrupt or quit the furnace business in disgust because of such tactics. I know several high-class, well rated sheet metal and roofing dealers who wouldn't handle furnaces again under any circumstances. This bars good outlets.

"Another thing that has discouraged many a good salesman, and eventually reacted against his em-

ployers, is the practice of certain manufacturers to cut down a territory after a salesman has built it up to the point where he is earning a little money. Either the powers-that-be are entirely ignorant of human nature or they are deliberately brutal.

"Should the salesman resign after being given such a deal, a new man is put in his place. But he is told that this and that account (the juiciest, of course) will be handled by the "office" in future. Once a year some executive (?) makes a grand tour of these "office" accounts and gets the contracts. The rest of the year he sits in swivel chair ease and sends "pep" letters to the poor devil who is trying to subsist on the leavings. It's a grim joke, mates.

"If manufacturers had held on to their good men by allowing them to earn an income in keeping with their abilities they would have staffs of loyal, well trained men. Incidentally, they might have been making money themselves.

"I think either the drawing account against commission or the salary and bonus methods are all right, provided they are on a fair basis.

Good Men Migrate to Other Fields

"If a salesman's remuneration is based on a drawing account and expenses against 10 per cent commission, he should have a territory where there is at least \$60,000 potential business. If he gets a salary and that pitiful "3 per cent overage," he should have a territory that he can build up to a minimum of \$85,000 worth of business. In either case he would net around \$4,000 a year, and it takes at least that much for a man to keep a family decently and not have to worry about finances.

"Maybe the close prices manufacturers are forced to make today really prevents them from basing a man's compensation on more than 10 per cent. But once upon a time they could easily have based it on 15 per cent and thus kept many ex-

perienced men from migrating to other fields.

"Industries are no stronger than the calibre of the men engaged in them. When danger looms, the heads of the business usually get together and work for the common welfare. It seems that furnace manufacturers are not doing it, even at this critical time. We can't look for much help from the dealers' state organizations, although these are doing some good. The manufacturers are a comparatively small unit and could easily get together if they would.

"Hats off to the few manufacturers who were far-sighted enough to keep their sales forces more or less intact and who kept on making quality goods. But they are lost in the shuffle now. They are overwhelmed by the majority whose slogan should be, 'Price at any price.'

"What is the remedy? Frankly, I don't know. Does anyone?"

Then here's a furnace dealer who has a complaint to make which manufacturers will do well to read. He writes:

"You have opened for discussion a very vital subject affecting the industry—the contact man between the manufacturers and the dealers.

"First we must remember that the interests of all those representing this industry are identical. The success of one group at the expense of another within an industry is not conducive to progress.

"We will cite one experience we have had. A salesman came to our office. In his approach he stated that John Doe, clerk in a hardware store, had told him that we were selling furnaces. We told this salesman, being a stranger to us, that we were not selling furnaces. He, thinking that he was in the wrong place, asked us what we were selling. We replied by saying we are selling heating service, trying to visualize what we would like if we were the user of the product. This does not mean furnaces any more than registers and pipe of proper capacity. This man left his circulars and departed and has never been seen since. Castings by the

ton or carload orders were floating before his eyes that he might make a temporary large commission without rendering any service whatever to his customer.

"The salesmen of today who are going to build permanently themselves into the industry are those who come in and use modern tactics in establishing their reputation and acquaintance, by building themselves into the picture, by demonstrating their ability to be of real service to the dealer, and thereby to the ultimate consumer. The manufacturer who senses this change in economic thought and conditions, and pays his men according to the foundation of service laid by his salesman, is going to be the manufacturer of tomorrow. He may not agree with the thought expressed in this article; he will not need to. The trend of the industry and economic progress will gradually put him in a lower class, or eliminate him altogether, as past experiences of some manufacturers, now gone, will testify in this day.

"The manufacturer who does not assume any responsibility for his product other than its sale to an untrained dealer, who shuts his eyes when this product is installed in a way not conducive to real service to the ultimate user, soon finds that product working to the detriment of himself and the dealer.

"The manufacturer who takes no interest in the financial success and reputation of his dealer by causing him to be oversold by men who get their return purely from volume is working a hardship on his dealer by causing him to sell these furnaces in any way possible regardless of the kind of installation made, the dealer being innocent of the fact that he is being man-handled by the manufacturer, and that he is riding for a fall if this practice continues."

There were several other letters couched in the same language by salesmen and furnace dealers. Their content implied that sales managers and manufacturers alike generally too far out of sympathy with the salesmen in the field and the problems of the dealers.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

Of AMERICAN ARTISAN, published weekly at Chicago, Ill., for April 1, 1929. State of Illinois, County of Cook—ss.

Before me, a notary public in and for the State and county aforesaid, personally appeared Etta Cohn, who, having been duly sworn according to law, deposes and says that she is the business manager of the AMERICAN ARTISAN, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher—Porter-Spofford-Langtry Corp., 139 N. Clark St., Chicago, Ill.

Editor—George J. Duerr.

Business manager—Etta Cohn.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Porter-Spofford-Langtry Corp., 139 N. Clark St., Chicago.

H. H. Bede, 139 N. Clark St., Chicago.

J. C. Langtry, 139 N. Clark Street, Chicago.

F. D. Porter, 139 N. Clark St., Chicago.

C. W. Spofford, 5 S. Wabash Ave., Chicago.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

American Artisan and Hardware Record, Inc.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or other-

wise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

Etta Cohn, Business Manager.

Sworn to and subscribed before me this 28th day of March, 1929.

(Seal) Sarah B. Boynton.

(My commission expires October 18, 1932.)

Patents Granted on Standard Ventilator

John W. Meixell, president of the Standard Ventilator Company, Lewisburg, Pennsylvania, has added another patent to his list.

According to dispatches from Washington, Mr. Meixell was al-



John W. Meixell, President, Standard Ventilator Co.

lowed eleven claims for new ideas on his application for the patent of the Standard ventilator filed on December 4, 1925.

Mr. Meixell, who has been manufacturing ventilators in his plant on St. Louis Street for a number of years, has improved his product considerably with the addition of the ideas upon which he has just been granted a patent. The number of the patent is 1701385.

Officially, the invention is described in this language:

"A ventilator of the character described comprising a supporting

base provided with a spindle, a ventilator body provided with a cone-like chamber at its apex, an anchor member carried by the ventilator body and extending across the lower portion of said member, a frusto-conical bearing member fitting within said chamber, and having its lower portion in engagement with said anchor member, said bearing member resting upon the upper end of said spindle, said bearing member and said anchor member having complementary interengaging means to prevent rotation of the bearing member, and means at the lower portion of said body for maintaining it in concentric relation with said spindle.

Boys at Pluth Sheet Metal Works Develop New Type Robber

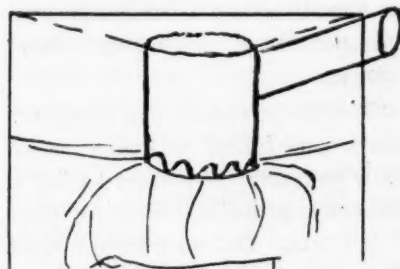
Here's a new type of "thief" or "robber" to be used on open dome furnaces, sent by M. E. Tice, Rockford, Illinois, XXth Century representative.

"This robber was originated by one of the men in the Edward M. Pluth Sheet Metal Works at Lincoln, Illinois," said Mr. Tice.

"After everything else had failed on one job there in Lincoln, one of the boys in the shop scratched his head and made a 12-inch pipe to fit snugly between the top of the furnace radiator and the bonnet—leaving 'relief' openings at the bottom. He tapped into this 12-inch reservoir with a 9-inch pipe, and the robber worked perfectly.

"It is a flexible idea—increase or diminish the reservoir in proportion to the size robber pipe taken off.

"Dealers who sell open dome furnaces will welcome this new idea with open arms and the boys at Pluths say there is no patent on it."



One Type of Robber

WHO'S WHO, WHERE!

INDIANAPOLIS, IND.—R. A. Pringle, formerly of Grand Rapids, Mich., has become manager of the Indianapolis office of the Sunbeam Heating Company.

ABERDEEN, WASH.—A. Roy Dunn has sold his sheet metal business to L. J. Braat, who will continue the business at 108 North G Street.

PORTLAND, ORE.—H. J. Sandberg has engaged in business at 120 West Lombard Street, as Sandberg Sheet Metal Works.

SPOKANE, WASH.—Julius C. Brandt and Frank E. Baumgartner have succeeded to the entire ownership of the Brant Brothers Company, sheet metal and roofing business.

MINOT, N. D.—Oliver & Uleberg have been awarded the sheet metal and roofing contract for the court house.

CEDAR RAPIDS, IA.—The Cedar Rapids Sheet Metal Works has been awarded the sheet metal contract for the remodeling of Security Building.

SPOKANE, WASH.—The workshops of the Spokane Stove & Furnace Company, 1027 East Marietta Street, will be erected at a cost of \$2,500.

VALLEJO, CAL.—The Clause Sheet Metal Works has the sheet metal contract for First Church of Christ, Scientist, at that point.

RICHMOND, CAL.—Victor Anderson has been awarded the sheet metal contract for car shed of Santa Fe Railway Company.

SAN FRANCISCO, CAL.—The Western Furnace & Cornice Works, Lansing and Essex Street, has been awarded the sheet metal contract for female patients' cottage at Mendocino State Hospital, Talmadge, Cal.

Robert Neilen, 17 Allston Way, has sheet metal contract for residence of William Stephensen, in Belvidere, Cal.

LOS ANGELES, CAL.—L. G. Bradfield, has been awarded the sheet steel, and the Quality Sheet Metal Works the sheet metal contract for the Market Building.

GLENDALE, CAL.—The California Cornice Works has been awarded the sheet metal contract for passenger station at Grand Central Air Terminal, near here.

WEST HOLLYWOOD, CAL.—R. J. Dougal has engaged in the furnace repairing business at 9069 Nemo Street under name of Hollywood Heating Service.

WICHITA, KAN.—The Davidson Sheet Metal Works, 701 North Main Street, has the heating and sheet metal contract for residence of Grover C. Wright.

The Loren N. Cox Furnace Company, 356 North Spruce Street, has the warm air heating contract for residence of Bertha A. Gray, and two for C. S. Drake.

The Hero Furnace Company, 551 West Douglas, has the furnace contract for residence of R. J. King.

The Wichita Steel Metal Works, 1123 East Douglas, has warm air heating contract for duplex of Mrs. St. John.

KANSAS CITY, MO.—The Acme Sheet Metal Works, 3107 East 18th Street, has the sheet metal contract for high school at Smithton, Mo.

TONCA CITY, OKLA.—The Conner Sheet Metal Works has the contract for heating and ventilating of Roosevelt School.

SAN ANGELO, TEX.—The Lydick Roofing Company has been awarded the roofing and sheet metal contract for

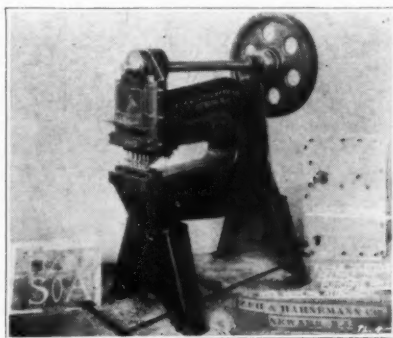
Baker-Hemphill Company department store.

NEW CASTLE, PA.—C. Henry has opened a sheet metal and warm air heating establishment at 417 North Croton Avenue and will handle the Midland furnace.

CUMBERLAND, MD.—John F. Trostle has engaged in the warm air heating and sheet metal business at 533 North Centre Street and will handle the Midland furnace.

Zeh & Hahnemann Company Develop New Press for Forming and Shaping

Zeh & Hahnemann Company, manufacturers of presses, dies and automatic machinery for working sheet metal, 182 Vanderpool Street, Newark, New Jersey, has recently developed and brought out a new



The New Press

type of punching press. This new press is designated by them as the No. 4-4B selective multiple die punching press with nibbling attachment.

The press consists of six punches and dies arranged in series in such a way that they are in position and brought to individual action by pressing corresponding buttons.

Full information concerning it can be had by writing the company direct at Newark, New Jersey.

William E. Feiten, Cleveland, Thinks Contractor Should Remain in Own Territory

William E. Feiten, sheet metal contractor and manufacturer of tin clad fire doors, 2252 East 93rd Street, Cleveland, Ohio, and prominent in association work, thinks that a contractor should remain in his own territory for getting work, with certain reservations. In that respect Mr. Feiten agrees with the Michigan Sheet Metal Contractors'

Association in the recent resolution they passed.

Mr. Feiten writes as follows:

"This question involves many angles. I do not believe that a sheet metal or warm air heating contractor should go outside of his territory for work, except for special reasons. I think the following three reasons would not be considered bad business ethics for invading other territory:

"(1) Where the owner and general contractor requests a certain contractor to do the work.

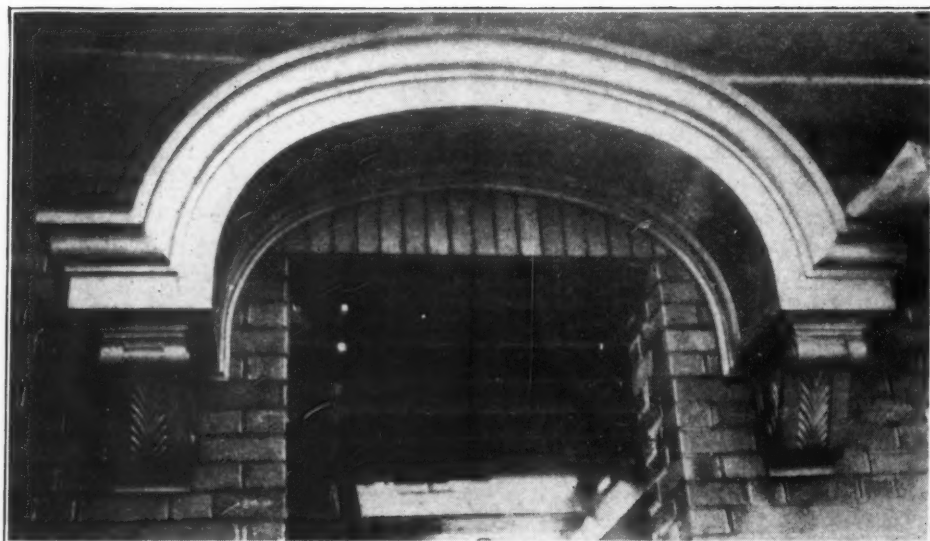
"(2) Where a job is located in a territory that has not sheet metal or warm air heating contractor capable or equipped to do the work.

"(3) Where the sheet metal or warm air heating contractor has done the promotion work."

Bulletin No. 188 of University of Illinois Research Experiment Station Latest on Warm Air Research

The latest bulletin to be issued by the University of Illinois Experiment Station on warm air heating research is Bulletin No. 188, which is Part 3 of the report of progress in warm air furnace research.

Other publications that have already been issued by the University Experiment Station dealing with the results of warm air furnace research are as follows: Bulletin No. 112, entitled "Report of Progress in Warm Air Furnace Research"; Bulletin No. 117, entitled "Emissivity of Heat from Various Surfaces"; Bulletin No. 120, entitled "Investigation of Warm Air Furnaces and Heating Systems"; Bulletin No. 141, entitled "Investigation of Warm Air Furnaces and Heating Systems, Part 2"; and Circular No. 15, entitled "The Warm Air Heating Research Residence in Zero Weather." This makes a total of five bulletins and one circular that the University of Illinois Experiment Station has issued to date on warm air heating research work. Every furnace installer should have this library available in his office. Check yours today and see if you have them all.



One Type of Metal Marquee for Use Over Front Entrance of Private Dwelling

PROGRESS is the keynote of the times. Another precedent has been dislodged by the all-copper residence marquee produced by the J. W. Grundorf Company, of St. Louis. The entrance hoods of dwellings have been made of wood in the past, with possibly an occasional metal marquee being introduced in residence work.

The shift from wood to copper construction shown in the accompanying illustrations by the Grundorf Company is not surprising considering the progressive nature of the firm and its insistence upon high quality workmanship in its products. It required but a few installations to demonstrate the

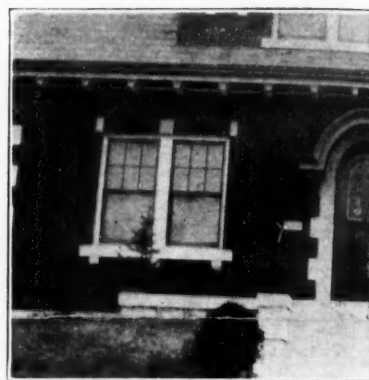
practicability of these copper marquees, and now designers of homes and apartments have registered their full approval of the beauty and flexibility of design offered by this metal.

Two general types of marquee are made unless a special design is requested. These take in the semi-circle, a half-round design, and a flat arch approaching closely a semi-ellipse. These sections are flanked by scroll design on the two ends resembling the beam ends of the early colonial structure. The leaf or scroll designs are mainly hand made, though some are pressed.

One of the great difficulties encountered in making up these mar-

Here's Ev Popula

St. Louis Possibil



Still Another Type of Metal Marquee of the Front Entrance



Showing Artistic Manner in Which Entrance Light Has Been Worked Into Design of Metal Marquee

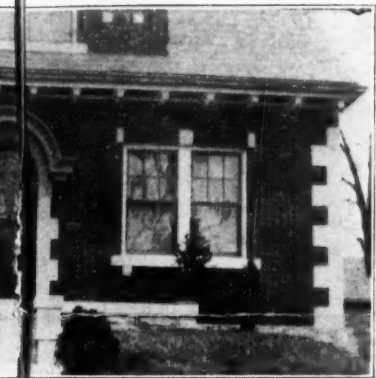
quees is the necessity to relieve all strains. The hoods cannot be forced into shape, but must be so constructed before soldering that a piece will lay on its adjoining member naturally. Any misfit must be corrected by means of a shears and not by holding a joint tight by force while soldering. A strain created by one small section may warp the whole marquee out of shape and cause a finished appearance of misproportion. Precision is important, for the finished product, because of its necessary symmetry, will magnify any small discrepancy.

Another item of note is the care which must be exerted in soldering. In a product of the nature of these, constructed of small parts making up a large pattern, there are a great many joints. If these are not carefully filled and good bonds made,

Evidence of the Return to Purity of Metal Cornice and Marquise

is Contractor Interests Architects in Artistic Qualities of Metal Marquise for Dwellings

By L. C. LEIMKUELER



Quality that Adds to the Attractiveness
of Private Dwelling

the entrance would soon be comparable with an Easter bonnet after a rainstorm. Yet if an excess of solder is used the natural beauty of copper would be so marred as to prove revolting. Adept workmanship is required from start to finish. The Grundorf Manufacturing Company though have not had any complaints on their products, many of which, assembled from patterns previously made, are fitted without recourse to the snips.

One of the most modern real estate subdivisions in St. Louis County already contains several marquises, and their use is rapidly spreading. Architects and homeowners alike appreciate the practicability of copper for building purposes and the permanence and beauty of this metal is destined to even wider use for buildings than

has been found heretofore. New applications are discovered repeatedly and the copper residence and apartment marquise is only one of many laudable evidences of progress.

This type of work is not secured by advertising or sitting in the office and expecting the architect and the contractor or builder to come to you. It is secured by going out and actually convincing the architect and builder that such things are possible with the metal marquise. They are much more easily constructed than wooden ones of the same

type and in addition, in the case of copper, they have the additional advantage of turning a beautiful shade of green after a certain amount of weathering, and this can be employed as an added selling point.

Let's get out and work hard for such business. Let's create business for ourselves by showing the architect and builder that the sheet metal industry has something definite in the way of home beautifier to offer. That will be one means of bringing the entire cornice business back to the sheet metal industry.



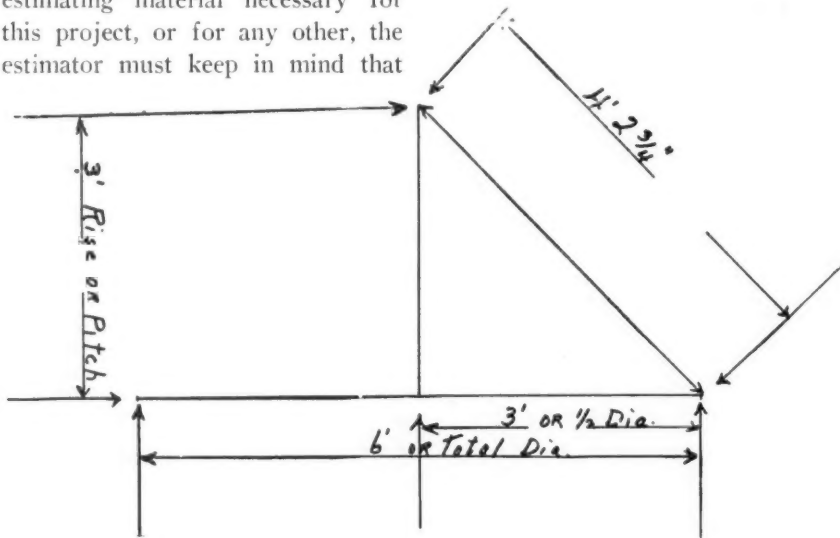
Closeup of Private Residence Entrance Showing Clear Cut Bends and Artistic Appearance that is Possible with Metal Marquise

Estimating Necessary Materials for Tempering Tank for Flour Mill

By J. E. ALLSTEADT, Superintendent, Hastings Equity Grain Bin Mfg. Co., Hastings, Nebr.

OUR PROBLEM for discussion in this article is a grain tempering tank for a flour mill. In estimating material necessary for this project, or for any other, the estimator must keep in mind that

the 2-inch lap from a 36-inch wide sheet, we have left 34 inches, which we will divide into the 348 inches.



standard stock sized sheets shall be used and that all laps and seams must be taken into consideration.

The tank in our problem is 6 feet in diameter by 32 feet high, including cone bottom with one-half pitch, also with inverted cone one-half pitch held in position with a suitable number of lugs. A 2-inch space is provided between cones to allow free passage of grain. This inverted cone is intended for a spreader, before the grain travels through the main bottom opening in the hopper.

The 6-foot diameter will require a circumference of 19 feet, exclusive of laps; so two 10-foot sheets will be required to complete one circle of the tank. Since the tank is 32 feet high over all, including cone bottom, and the cone has one-half pitch or a drop of 3 feet, the height of the cylinder body will be approximately 29 feet.

Allowing a lap of $1\frac{1}{2}$ to 2 inches, the material will be figured thus: Use a stock sheet 36x120 inches, which will cut to best advantage and is a standard stock size. The height of cylinder we found to be approximately 29 feet. Reducing this to inches, we have 348 inches. Taking

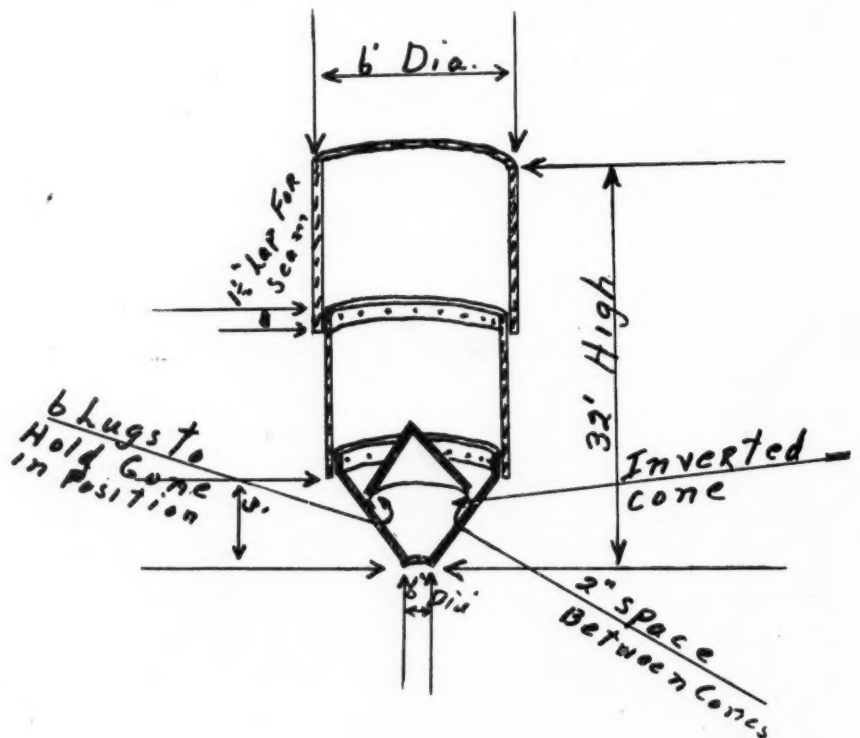
This gives us 10 sheets and an 8-inch balance for the cylinder.

Since we found above that it takes two 10-foot sheets to complete the circle of the 19-foot circumference, we will multiply the ten sheets required for cylinder by two, which gives twenty sheets. Adding to this the one sheet required for the 8-inch

balance and waste, we have a total of 21 sheets, 36x120 inches, for the finished cylinder.

The two cones being 6 inches in diameter at the base, with a one-half rise or pitch, gives us a rise or pitch of 3 feet. Note illustration No. 2. Take measurements from the extreme point of rise and from the outside point of diameter, which gives approximately $4\frac{1}{4}$ feet. This represents one-half the diameter of the cone in the flat, so the total diameter in the flat is $8\frac{1}{2}$ feet or 102 inches. As we are using standard stock sheets, 36x120 inches, three of these sheets will give a width of 108 inches, so we will have 6 inches allowance by using three of these sheets for our cone. Two cones will require six sheets.

Twenty-one sheets for the cylinder and six sheets for the cones gives us a total of twenty-seven sheets, 36x120 inches. Lugs, rivets and a 20-foot length of angle on top complete the requirements for material for the grain tempering tank of our problem.



Illinois Sheet Metal Contractors Have Splendid Convention Program

All Phases of Sheet Metal Industry to Receive Consideration

THE following is the program of the Illinois Sheet Metal Contractors' Association convention, which is to be held in Peoria, Illinois, April 16, 17, 18, 1929, at the Jefferson Hotel:

Tuesday, April 16

8:30 a. m.—Registration and distribution of badges.

Meeting of the board of directors.

10 a. m.—Convention called to order by George Harms, director of the National Association.

Address of welcome by Mayor Louis Mueller of Peoria.

Response and address by R. J. Jobst, president of the Sheet Metal Contractors' Association of Illinois.

Committee appointments.

Address by E. C. (Jack) Fisher, superintendent of Peoria public schools. Subject, "Vocational Training and Education."

2 p. m.—Reading of minutes of the previous meetings.

Address by J. G. Dingle, C. P. A., of Ottawa. Subject, "Overhead and Accounting."

Discussion.

Question box.

Wednesday, April 17

9:30 a. m.—Reading of minutes of previous meeting.

Warm air furnace session.

Address by Jack Stowell, special representative of the Better Business Committee of the National Warm Air Heating and Ventilating Association.

Discussion.

Question box.

2 p. m.—Address by our National president, Paul L. Biersach, of Milwaukee.

"Better Co-operation Between Sheet Metal Contractors and the Auxiliary." President Frank L. Fraser presiding.

Discussion.

Question box.

6:30 p. m.—Banquet and enter-

tainment by our hosts, the Travelers' Auxiliary.

Thursday, April 18

9:30 a. m.—Reading of minutes of previous meeting.

Report on Trade Development Book by George Harms, chairman of Trade Development Committee of the National Association.

Reports of officers and committees.

New and unfinished business.

Election of officers.

Installation of officers.

Selection of next convention city.

Art Alliance Awards Prizes for Kitchen Sink Design Competition

The prizes in the competition for design for kitchen sinks in monel metal offered through the Art Alliance of America by the International Nickel Company, were awarded to the following:

First prize of \$1,000 to W. Wallace Ferguson, Jr., 1641 Commonwealth Avenue, Boston, Massachusetts.

Second prize of \$500 to William Brodsky of Pennsylvania Museum and School of Industrial Arts, Philadelphia, Pennsylvania.

Third prize of \$300 to Mrs. Helen Stangeland, 947½ West 68th Street, Los Angeles, California.

Fourth prize of \$100 to Max R. Uhlig, 191 Albermarle Street, Springfield, Massachusetts.

Fifth prize of \$100 to C. Erwin Josselyn, 84 Redland Road, West Roxbury, Massachusetts.

The jury of award consisted of Harvey Wiley Corbett, architect; Ely Jacques Kahn, architect; Louis Hassinger, president, John Trageser Steam Copper Works; Mrs. Frederick Ackerman, interior decorator; Miss Katherine A. Fisher, director, Good Housekeeping Institute, and Miss Marcia Mead, architect.

The prize winning designs and others selected by the jury were ex-

hibited at the Art Alliance, 65 East 56th Street, on Thursday and Friday, March 21 and 22.

The outstanding feature of the sink contest was the great latitude which Monel metal offers to the architect in designing the kitchen for the home. Monel metal sinks may be fitted to any type of kitchen because of the ease of working sheet metal as compared with the limitations of porcelain, enameled iron and other materials. Many of the designs submitted were eminently suitable for custom-made sinks and were only debarred from receiving prizes owing to the fact that they were not suitable for quantity production.

About five hundred designs were submitted, the general level of craftsmanship shown being very high. The first prize was won by a sink of very simple design, having two drawers on the right and one drawer on the left, fitted under the drainboards.

Baltimore Women Planning Big Reception for Visiting Women in June

At a recent meeting of the Women's Auxiliary to the Baltimore Sheet Metal Contractors' Association a committee was appointed to greet the visiting women upon their arrival at Baltimore during the national convention in June. This committee consists of Mrs. W. E. Cotton, Mrs. W. A. Fingles, Sr., Miss Irene Fingles, Mrs. F. H. Baehr, Mrs. E. J. Ward and Mrs. C. E. Brandt.

The committee on card parties and prizes consists of Mrs. W. A. Fingles, Sr., Mrs. W. A. Fingles, Jr., and Miss Irene Fingles.

The route for the sight-seeing tour of Baltimore for the women was discussed and a trip through a sugar refinery plant and through McCormick's spice making plant and a trip to historical Fort McHenry are also being planned.

Another meeting of the Women's Auxiliary to perfect the plans for the entertainment of the visiting women will be held in the assembly room of the Association of Commerce on the evening of April 8th.

Heating Systems Corporation, Joliet, Takes Over Heating Systems and Supply Company

The Heating Systems Corporation, successor to Heating Systems & Supply Company, has been formed and is located at 307 Scott Street, Joliet, Illinois, with R. W. Menk as president and general manager, and James Straka as treasurer.

The new company has acquired all of the patterns, patents and equipment of the Heating Systems & Supply Company and will in the near future erect a plant at Joliet, Illinois, on a three-acre plot.

A merchandising plan is being formulated by one of the foremost advertising agencies, which will insure a continued good will on the part of the industry and a closer co-operation with dealer and jobber, which will exceed anything that has ever been attempted before, and based on exclusive agency and territorial rights.

In addition to the complete line of "Heat-O" boosters, coal and oil fired furnaces now already established, the new company will have ready for shipment to the trade about July 1 an additional line of all steel warm air heaters built to burn coal or oil.

To be marketed also under the trade name of "Heat-O" is the latest, patented, improved welded steel boiler built to burn coal, oil or gas, in sizes varying from 500 to 4,000 feet of steam radiation which will be known as our Model "M," emphasis being laid to flexibility of capacity, ease of installation and economy of operation.

In addition, to what is outlined above the company will have ready some time in the fall an added line of heating systems comprising furnaces and boilers housed in units, with boosters, humidifiers and air cleaning accessories. These will be marketed as an added new line under the name of "Comfortmaker."

To those of our readers in the trade who would be interested in receiving a new catalog and engineering handbook the new company will be glad to forward copies with-

out obligation as soon as they are off the press, as it is a manual of decided advantage to those engaged in a profession as important as that of bringing comfort to the home.

The new company has a full complement of capable officers and engineers, and it has our every wish for success.

Have You a Tin Buffer of the Character Described

TO AMERICAN ARTISAN:

Please advise us where we can obtain a tin buffer to be used in a repair kit for the buffing of tubes, preparatory to the application of sheet metal patch.

We wish to secure a source of supply direct from the manufacturer, and would greatly appreciate your assistance in this matter?

Very truly yours,
WESTERN STATES MFG. CO.



Air Filter for Warm Air Furnaces

From Oliver Lowry, Meridian, Mississippi:

Will you please tell me where I can get a good filter to install in a warm air heating system that will help eliminate so much dust?

Ans.—The Warm Air Furnace Fan Company, 6511 Euclid Avenue, Cleveland, Ohio, distributors of the "Reed" Air Filter.

Cast Iron Smoke Pipe

From a Subscriber:

Can you tell me who makes cast iron smoke pipe and fittings?

Ans.—Waterloo Register Company, Waterloo, Iowa.

Slate Roofing

From Otis Burton, Orleans, Indiana:

Can you tell me who makes slate roofing?

Ans.—Auld and Conger, Cleveland, Ohio; American Coating Mills, Elkhart, Indiana; Rising and Nelson Slate Company, West Pawlet, Vermont; Davis Slate & Manufacturing Company, 618 East 40th Street, Chicago, and Vendor Slate Company, Easton, Pennsylvania.

"Yankee" Hot Air Damper

From The Williamson Heater Co., Cincinnati, Ohio:

Will you kindly inform us who makes the "Yankee" hot air dampers?

Ans.—The S. M. Howes Company, Boston, Massachusetts.

Copper Screw Caps

From Keith R. Monroe, 323 East 23rd Street, Muncie, Indiana:

I should like to know who makes copper screw caps for copper cans.

Ans.—Berger Brothers Company, 237 Arch Street, Philadelphia, Pennsylvania; Consolidated Fruit Jar Company, New Brunswick, New Jersey; Wm. Vogel & Brothers, Brooklyn, New York.

Automatic Coal Stokers for Warm Air Furnaces

From The Hall Hardware Company, McComb, Ohio:

Can you tell us who makes automatic coal stokers for warm air furnaces?

Ans.—Time-O-Stat Controls Company, Elkhart, Indiana; Portland Wire and Iron Works, Portland, Oregon, and Domestic Stoker Company, 7 Dey Street, New York City.

Vacuum Cleaners for Warm Air Furnaces

From Pease Foundry Company, 118 and 120 King Street, East, Toronto, Canada:

Will you be good enough to put us in touch with manufacturers of vacuum cleaners for cleaning warm air furnaces?

Ans.—Homer B. James Company, 717 Ohio Street, Terre Haute, Indiana; Brillion Furnace Company, Brillion, Wisconsin; National Super Service Company, 812 Lafayette, Toledo, Ohio; Williamson Heater Company, Cincinnati, Ohio, and B. F. Sturtevant Company, Hyde Park, Boston, Massachusetts.

"V. & B." Conductor Hooks

From Standard Furnace and Supply Company, 407-13 South Tenth Street Omaha, Nebraska:

Will you please advise the location of the V. & D. Mfg. Company, makers of steel conductor hooks?

Ans.—You probably mean the Vaughan and Bushnell Manufacturing Company, 2114 Carroll Avenue, Chicago, who make this item.

Zinc Workers' Manual Recently Completed by American Zinc Institute

Recognizing the need for educational work on the proper uses of zinc, the American Zinc Institute, 27 Cedar Street, New York, has recently compiled and issued what they are pleased to term a Zinc Workers' Manual.

This manual is designed to inform the sheet metal contractor and worker concerning what zinc is and the correct method of working with it. Surveys made by the zinc industry into the causes for failure of zinc to stand up in some instances have proved conclusively that such failures are due in practically all cases to a lack of knowledge on how to work zinc properly or the incorrect use of it rather than any inherent weakness in the metal itself. And it is to supply information that will enable the sheet metal worker to know when and where to use zinc and how to work with it, in order to avoid failure.

Chapter two, for instance, of the manual deals with such things as how to bend zinc to avoid cracking, how to heat it and anneal it, how to make metal ornaments from it, how to solder it correctly, how to paint it, how to do cornice crimping, and what kind of nails and screws to use in connection with it.

Roofing, batten roofing, standing seam roofing, the application of zinc shingles, diamond tile or lozenges, flat roofing, leaders and gutters, box gutters, expansion joints and how to make them, leader pipes, valleys and flashings, and the application of corrugated sheet zinc—all of these subjects are given thorough treatment in the manual.

No sheet metal contractor should be without this manual. It contains information that will help you to know how accurately to work with zinc and in that way avoid making costly mistakes.

If you have not already received a copy of the Zinc Workers Manual, you should lose no time in writing for a copy. Drop a line to Stephen S. Tuthill, secretary of the

American Zinc Institute, 27 Cedar Street, New York City, with \$1.50.

Thermo-Control for Warm Air Furnaces a New Heat Regulator of Possibility

The Thermo-Control Regulator Company, 710 Market Street, Youngstown, Ohio, are the manufacturers of a device known as the Thermo-Control for warm air furnaces.

Thermo-Control is a thermostat of sufficient size to be able to operate the heaviest draft and check draft doors without the use of any power from an outside source.

Woodworth Rd.,
Poland, Ohio,
March 27, 1929.

AMERICAN ARTISAN,
Chicago, Ill.
Gentlemen:

Please send me samples of Doyle's Job Tickets. I have several styles of tickets, but none are just what I want.

I also wish to say that the furnace symbols for warm air heating by F. E. Hackensmith in the March 16th issue of AMERICAN ARTISAN would be a fine thing if they were made standard, so that all architects and engineers would use the same symbol to express the same thing.

All in all, the ARTISAN is a great publication which should be appreciated by the trade.

Yours very truly,
C. C. PAULIN.

This thermostat consists of a 1-inch diameter carbon rod encased in a round steel tube. The "L" shaped lever, which extends across the top of the furnace when the regulator is installed, is supported by the carbon rod, which in turn is supported by the adjusting wheel screw.

Any increase in temperature on the thermostat causes the steel tube to expand a greater amount than the carbon rod, due to the steel having a higher coefficient of expansion than carbon. This greater expansion of the steel tube permits the overhung lever to drop an amount

which is proportionate to the increase in temperature.

Any decrease in temperature causes the steel tube to contract a greater amount than the carbon rod, which in turn causes the lever to be raised a proportionate amount.

The chains are so arranged that when the lever is caused to drop by an increase in temperature on the thermostat, the draft door closes, and when the lever is caused to raise by a decrease in temperature on the thermostat, the draft door is opened. In order to increase or decrease the temperature which is to be maintained in the hood of the furnace it is only necessary to turn the adjusting wheel.

The device is self contained and does not stress the furnace casing in any way.

The simplicity of design tends to reduce service to a minimum, gives positive action and makes possible the installation of Thermo-Control by furnace installers on practically all of their furnace installations as standard equipment.

The device will operate satisfactorily in temperatures up to 700 degrees F. without damage to the elements in the thermostat, say the manufacturers.

There is no upkeep expense and no replacement of parts necessary.

The gradual opening and closing of draft and check draft gives as near perfect combustion as is possible to obtain, and also eliminates the possibility of the bonnet temperature rising over 10 degrees after the draft door is completely closed.

Brillion Furnace Co. Takes Larger Quarters for Chicago Office

The Brillion Furnace Company, Brillion, Wisconsin, makers of the Brillion warm air furnace and the Brillion vacuum furnace cleaner, have moved their Chicago office to new and larger quarters in the Builders Building, 228 North La Salle Street at Wacker Drive.

Fred Bloomfield is the manager of the Chicago office.

RANDOM NOTES AND SKETCHES

Roy Harrison, Chicago branch manager of the Rudy Furnace Company, dropped into our office on Wednesday of this week. Roy is one of the big furnace and stove pipe magots (printer's error, I meant magnate) of the Illinois Travelers' Auxiliary and wields a mean clinker tong in the outfit. When I said big I referred not only to his capabilities, but also to his avoirdupois. Roy sure is getting fat, and if he continues, he will soon outstrip Mayor Thompson himself in this respect. This fact does not decrease his joviality, however; neither has he lost any of his interest in good, wholesome stories.

* * *

Although some folks may not know it, Henry E. Schwab has written some really clever songs and poems, but has never before attempted to commercialize his talent. The other morning he came into his office, triumphantly waving a check. "Hurrah!" he cried, "five dollars for my first song!"

"Pom": "Congratulations, Mr. Schwab. From whom did you get the money?"

"H. E.": "From the express company. They lost it."

* * *

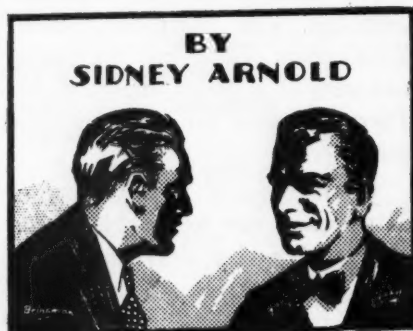
"Tony" Howe (J. M. & L. A. Osborn Company), to office boy: If Mr. Smith calls today tell him I'm out.

Office Boy: Yes, sir.

"Tony" Howe: But don't be doing any work, or he won't believe you.

* * *

Legend has it that while in New York recently Paul R. Jordan, Indianapolis, slipped on the top stair of the subway and started sliding to the bottom. Halfway down he collided with a woman, knocked her off her feet and the two continued



their journey together. After they had reached the bottom, the woman, still dazed, continued to sit on Paul's chest. Looking up at her politely, he finally exclaimed: "Madam, I am indeed sorry, but this is as far as I go."

* * *

"Are you the groom?" asked the bewildered old gentleman, at a very elaborate wedding.

"No, sir," was the reply of the much embarrassed R. P. Christensen, Chicago Furnace Supply Company, "I was eliminated in the preliminary try-out."

* * *

Can a girl do anything about an unattractive knee?

Nothing but grin and bare it.

* * *

Wm. D. Martin, Jr., American Brass Company, Kenosha, Wisconsin, a guest of a small Southern hotel, was awakened early one morning by a knock on his door.

"What is it?" he called drowsily, without getting up.

"A telegram, Boss," responded a negro's voice."

"Well, can't you shove it under the door without waking me so early?"

"No, suh," the darky answered,



with his mind on a tip, "it's on a tray."

* * *

A very seasick passenger, Bill W. Busch of Detroit, was teased by his friends, Al Bersbach and Bill Sullivan, who called him a landlubber. "Dat's true," said the victim weakly. "Dey ain't no ahgyment dere. Ah's a landlubber all right, and Ah's jes finding out how much Ah lubs it."

* * *

Can anybody answer this inquiry?

Frank Mehrings' young hopeful (Meyer Furnace Company) has asked him why vitamins were put in spinach and cod liver oil instead of cake and candy, and Frank has passed the buck on to me.

* * *

Lost Alibi

It was midnight. In the smoking-room of a club a young man sat huddled in a chair. A friend entered.

"Hello, Smith!" he asked, cheerfully, "not going home yet?"

"No," muttered the despairing one. "I daren't."

"Why, what's the matter?"

"Matter? At eight o'clock I telephoned my wife and gave her a perfectly good excuse for not coming straight home, and," (his voice sank to a whisper), "I've forgotten what I said."

* * *

"Please, angel, won't you marry me?"

"Yes—if you can tell me one thing we have in common."

"Well, I think you are beautiful."

* * *

"Lucy sure is a nice girl."

"Yeh, so nice that when she dreams of auto rides she walks in her sleep."

TONCAN



A hundred ways to help get over TONCAN'S hundred uses

LETTER HEADS, envelopes and statements bearing your name—brilliantly colored blotters for your customers—a series of Government postal cards for your direct mail canvassing—also in colors—job signs—shop signs—booklets—leaflets, etc.! These are a few of the convincing helps we have for the Toncan dealer—all tied in with a great national advertising campaign—telling the impressive story of Toncan.

Toncan Copper Mo-lyb-den-um Iron a scientific alloy of pure iron, copper and molybdenum—is many times more resistant to rust and corrosion—many times more durable under the most unfavorable

conditions than any other ferrous metal.

Use it for roofing—piping—stoves—ventilators—gutters—cornices and a hundred other places where resistance to exposure is necessary. You doubtless know about this remarkable metal and its many advantages. Our dealer arrangement, too, has advantages that are reflected in greater profits, greater satisfaction to customers—greater possibilities for the future. Write for details.

**CENTRAL ALLOY
STEEL CORPORATION**
Massillon and Canton, Ohio
*World's Largest and Most Highly
Specialized Alloy Steel Producers*



March Pig Iron Output a Record

Net Gain of Five Active Furnaces--High April Iron and Ingot Rates Seem Assured—Some Makers Sold-up for Quarter—Ore Rise Prods Sales

PIG IRON production in March, as in January and February, constituted a record for that month and was exceeded only twice in all history. At 119,575 gross tons daily and 3,706,822 tons for the month, it bettered the previous peak March, in 1925, by $1\frac{1}{2}$ per cent. Over the rate of February it gained 4 per cent and over last March 16 per cent.

First quarter output of pig iron, at 10,358,226 tons, also was a record, the previous top being 10,157,696 tons in the opening quarter of 1925. First quarter tonnage in 1928 was only 8,953,358. As March ended, 213 blast furnace stacks were active, five more than a month previous and the largest number in blast since April, 1927.

This addition to capacity foreshadows another pig iron record in April. Also, it makes certain that statistics for steel ingot production in March, to be announced next week, will reveal an all-time peak for both the month and the first quarter. All five stacks added last month being at steel works, the seal is placed on April ingot operations.

With three record months behind them, and a fourth in prospect, iron and steel producers in a spirit of prudence are scanning the situation more closely. At Chicago, today's stronghold of the industry, second quarter production is considered sold out, and deliveries have become further deferred. Specifications at Cleveland have come back after a slight let-down.

Brass and copper rolling mills continue rushed to capacity, with shipments requiring from two weeks to two months. Production by the mills in March probably was much above that of any month in history.

Copper

Business has been practically at a standstill, with users unusually well covered ahead and holiday let-up in Europe of greater dura-

tion than here. Producers' prices are firm at 24 cents, Connecticut. A small amount of second-hand metal was offered for less. Some of it was taken quickly and little was heard about the remainder. Stocks of copper are extremely low.

Zinc

Prime western has sold up to 6.80 cents, East St. Louis, and some asking prices are 5 points higher. Some business also was done in the past few days at 6.75 cents. With the ore market going up \$1.50 to \$44 a ton on Saturday, the metal market became very firm, but did not show any immediate change, as the ore price rise had been expected and was discounted. The spread in price between a ton of ore and the metal produced from it, on the basis of \$44 and 6.80 cents, is \$24. This is the widest in a long time. There is some expectation that the price of ore will go to \$45 on account of the strongest situation in ore which has obtained for a long time. In this event, prime western slab probably will advance somewhat.

Tin

This market has held unusually well in the past week in the face of moderate buying and break in the stock market. The price, however, is down to a level where there is great resistance to any further drop. Domestic deliveries in March were extraordinarily large at 8,175 tons.

Lead

The lead market has become more stable. With prices held firmly at one level by the largest producers, a runaway market has been prevented. For several days last week there were premiums paid far above prices of the leading producers, but they have about, if not entirely, disappeared. The situation, however, continues strong.

Pig Iron

New pig iron business at Pittsburgh is quiet, the recent advance in prices and the turn of the quarter bringing the usual period of in-

activity. Furnaces are well booked and shipments still are heavy. Stocks gradually are declining and a shortage is appearing in several grades.

Rush orders come occasionally from consumers who permitted supplies to become depleted. Others who have not placed their requirements for second quarter are determining their needs and are expected in the market soon.

Furnaces are receiving a fairly steady run of small lot orders, interspersed with a few purchases as high as 500 tons. The new prices are well maintained.

Bessemer and basic averages, as compiled by W. P. Snyder & Co., last month were \$18.39 and \$17.60, respectively, showing a slight increase over the February figures of \$18.25 and \$17.50.

Sales of pig iron at Birmingham are reported at the new low prices for delivery in Ohio river territory. The price, \$15.50, base, Birmingham, however, has not developed the demand that was anticipated. Consumers are not buying beyond a few weeks.

Northern pig iron is firm at \$20, base, Chicago, as shown by sales of 3,000 to 5,000 tons just closed. A fair volume of late second quarter tonnage is being booked. Some views are that the Chicago price may remain in effect, due to the recent reduction in southern iron, although one southern furnace is said to be withholding quotations for new business in this district. Daily shipments of northern iron set a record in March. First quarter shipments also were heavier than any previous first quarter. No appreciable gains are noted in furnace stocks.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$33.75; 48-52, \$33.00; 45-55, \$31.75; plumbers', \$29.75; all per 100 pounds.



THIS NEW TROUGH
ADDS BEAUTY TO THE EAVES AND CATCHES
ALL THE RAIN

WHETHER the style of the residence be an English half-timber, Colonial, Spanish or any other type of modern domestic architecture, you will find that the Lupton trough harmonizes effectively and unobtrusively. A glance at the illustration above will show you how well it emphasizes the roof line of the house.

The new Lupton Art-Bead Trough is as practical as it is ornamental. The decorative bead has been so constructed that it takes care of all the rain—no matter how heavy the storm. The water that washes up to the edge of the gutter is caught by this overhanging bead, and kept on the inside. None drips over to run down the walls and leave streaks.

Sections have been

designed to fit into each other quickly and snugly. Any type of hanger may be used. The Lupton shank and circle, however, has proved to be the most practical.

The Lupton Art-Bead Trough is made in all metals: 16-ounce Copper, Armco Ingot Iron, Toncan Metal, Follansbee Forge and Galvanized Steel. Each carry the same high quality of workmanship that you have come to look for in any product bearing the Lupton label. Every job you put up will bring you many new customers.

See the samples of the new Lupton Art-Bead Trough now on display at your jobber's. DAVID LUPTON'S SONS Co., Allegheny Ave. and Tulip St., Philadelphia.

LUPTON
ART-BEAD
TROUGH

Mention AMERICAN ARTISAN in your reply—Thank you!

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

METALS

FIG IRON

Chicago Fdy., No. 2	\$20 00
Southern Fdy. No. 2	21 51
Lake Superior Charcoal	27 04
Malleable	20 00

FIRST QUALITY BRIGHT CHARCOAL TIN PLATES	
IC 20x28 112 sheets	\$32 50
IX 20x28	35 50
IXX 20x28 56 sheets	14 50
IXXX 20x28	15 50
IXXXX 20x28	17 00

TERNE PLATES

Per Box	
IC 20x28, 40-lb. 112 sheets	\$26 70
IX 20x28, 40-lb. 112 sheets	29 70
IC 20x28, 25-lb. 112 sheets	22 30
IX 20x28, 25-lb. 112 sheets	25 30
IC 20x28, 20-lb. 112 sheets	20 25
IV 20x28, 20-lb. 112 sheets	25 00

"ARMCO" INGOT IRON PLATES	
No. 8 ga.—100 lbs.	\$4 15
3/16 in.—100 lbs.	4 05
1/4 in.—100 lbs.	3 85

COKE PLATES

Cokes, 80 lbs., base, 20x28	\$12 00
Cokes, 90 lbs., base, 20x28	12 20
Cokes, 100 lbs., base, 20x28	12 40
Cokes, 107 lbs., base, IC	12 75
20x28	14 75
Cokes, 185 lbs., base, IX	14 75
20x28	8 50
Cokes, 156 lbs., base, 2X,	56 sheets
Cokes, 175 lbs., base 3X,	56 sheets
Cokes, 195 lbs., base 4X,	56 sheets
56 sheets	10 25
BLUE ANNEALED SHEETS	
Base 10 ga. per 100 lbs.	\$3 35
"Armco" 10 ga. per 100 lbs.	4 15

ONE PASS COLD ROLLED BLACK

No. 13-20	per 100 lbs.	\$3 60
No. 22	per 100 lbs.	3 75
No. 24	per 100 lbs.	3 80
No. 26	per 100 lbs.	3 90
No. 27	per 100 lbs.	3 95
No. 28	per 100 lbs.	4 05
No. 29	per 100 lbs.	4 20
No. 30	per 100 lbs.	4 30

"ARMCO" GALVANIZED	
"Armco" 24....	per 100 lbs. \$6 15

GALVANIZED

No. 16	per 100 lbs.	\$4 15
No. 18	per 100 lbs.	4 30
No. 20	per 100 lbs.	4 45
No. 22	per 100 lbs.	4 50
No. 24	per 100 lbs.	4 65
No. 26	per 100 lbs.	4 90
No. 27	per 100 lbs.	5 00
No. 28	per 100 lbs.	5 15
No. 30	per 100 lbs.	5 55

BAR SOLDER

Warranted 50-50	per 100 lbs.	\$33 75
48-52	per 100 lbs.	33 00
45-55	per 100 lbs.	31 75
Plumbers'	per 100 lbs.	29 75

ZINC

In Slabs	\$ 7 25
----------	---------

SHEET ZINC

Cask Lots (600 lbs.)	\$11 75
Sheet Lots	12 75

BRASS

Sheets, Chicago base	28% c
Miss base	27% c
Tubing, brazed, Chicago base	36% c
Mill base	35% c
Tubing, seamless, Chicago base	33% c
Mill base	32% c
Wire, Chicago base	28% c
Mill base	27% c
Rods, Chicago base	25% c
Mill base	24% c

COPPER

Sheets, Chicago base	33% c
Mill base	32% c
Tubing, seamless, Chicago base	36% c
Mill base	35% c
Wire, plain rd., 8 B. & S. Ga.	
and heavier	30% c

LEAD

American Pig	\$8 85
Bar	9 85

TIN

Bar Tin	per 100 lbs.	\$55 50
Bar Tin	per 100 lbs.	56 50

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16	6c per lb.
Roll board	6 1/2 c per lb.
Mill board 3/32 to 1/2	6c per lb.
Corrugated Paper (250 sq. ft. to roll)	\$6 00 per roll

BRUSHES

Furnace Pipe Cleaning Bristle with handle	each \$0 75
Fine Cleaning Steel only, each	1 25

CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 45
American Seal, 10-lb. cans, net	85
American Seal, 25-lb. cans, net	2 25
Pecora	per 100 lbs. 7 50

CHIMNEY TOPS

Adams' Revolving		
Wt. Doz.	Price Doz.	
4 in.	21 lbs.	\$11 00
6 in.	24 lbs.	11 50
7 in.	30 lbs.	13 50
8 in.	33 lbs.	15 00
9 in.	51 lbs.	16 50
10 in.	56 lbs.	18 00
12 in.	66 lbs.	22 00
14 in.	110 lbs.	36 00

CLINKER TONGS

Each	\$1 50
------	--------

CLIPS

Damper No-Rivet Steel, with tail pieces, per gross	\$9 50
Rivet Steel, with tail pieces, per gross	7 50
Tail pieces, per gross	2 40

COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRAKES

Chicago Steel Bending Nos. 1 to 6B	Net
------------------------------------	-----

CUT-OFFS

Gal., plain, round or cor. rd.	
28 gauge	30%
28 gauge	35%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.	\$1 60
8 inch, each 25c, doz.	2 20
9 inch, each 30c, doz.	2 60
10 inch, each 32c, doz.	3 80
Smoke Pipe	
7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	3 00
10 inch, doz.	3 75
12 inch, doz.	4 50

ADAMS No. 1 CHECK

Check and Collar Complete	
8 inch, each	2 00
9 inch, each	2 25
End Check Only	
8 inch, each	1 60
9 inch, each	1 85
Collar Only	
8 inch, each	50
9 inch, each	65

No. 2 CHECK

8 inch, each	1 00
9 inch, each	1 00
10% Disc. on Adams No. 1 and No. 2 Check	
Diamond Smoke Pipe	
7 inch, doz.	\$2 00
8 inch, doz.	3 20
9 inch, doz.	4 50
10 inch, doz.	6 00

Adams' Sheet Metal

7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

EAVES TROUGH

Galv. Crimpedge, crated 75 & 10%	
Zinc, "Barnes"	60%

ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp,	
28 Gauge	60%
26 Gauge	45%
24 Gauge	15%

Galv. Terne Steel

Plain Rd. and Rd. Corr.	
28 Ga.	60%
26 Ga.	45%
24 Ga.	15%

Square Corrugated

No. 28 Gauge	50%
26 Gauge	35%

Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	70 & 5%
Nested Solid	70 & 5%

Sq. Corr., A. & B. & Octagon

28 Ga.	50%
26 Ga.	35%

Portico

1", 1 1/4", 1 1/2"	45%
--------------------	-----

Copper

16 oz., all designs	50%
---------------------	-----

Zinc

All styles	60%
------------	-----

ELBOWS—Steve Pipe

1-piece Corrugated. Uniform Blue "Milcor" No. 28 Gauge. Doz.	
5-inch	\$1 15
6-inch	1 25
7-inch	1 75

Special Corrugated

6-inch	\$1 00
7-inch	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform Blue.	
5-inch	\$1 60
6-inch	1 75
7-inch	2 10

WOOD FACES—60% off list.

FENCE

726-6-12 1/2% (100 rods)	\$28 68
1948-6-14 1/2% (100 rods)	43 62

FILES AND RASPS

Heller's (American)	50-10%
American	60-10%
Arcade	50%
Black Diamond	50%
Eagle	50%
Great Western	50%
Kearney & Foot	50%
McClellan	50%
Nicholson	50%
Simonds	60%

FIRE POTS

Geo. W. Diener Mfg. Co.		Ma.
No. 02 Gasoline Torch, 1 qt.		\$ 5 13
No. 9250, Kerosene, or Gasoline Torch, 1 qt.		5 50
No. 10 Tinner's Furn. Square tank, 1 gal.		11 30
No. 15 Tinner's Furn. Round tank, 1 gal.		10 70
No. 21 Gas Soldering Furnace		8 60
No. 110 Automatic Gas Soldering Furnace		10 50

GALVANIZED WARE

Pails (Galv. after made), 10-qt.	\$3 00
Tubs (Galv. after made), No. 1	5 75
No. 2	6 50

GLASS

Single Strength, A, all brackets	85%
Single Strength, B, all brackets	87%
Double Strength, A, all brackets	85%
Double Strength, B, all brackets	87%

HANGERS

Conductor Pipe	
Milcor Perfection Wire	25%
Milcor Triplex Wire	10%
Eaves Trough	
Milcor Steel (galv. after forming) List	plus 12 1/2%
Milcor Seidlock H. T. Wire, List	plus 50%

HOOKS

Conductor	
"Direct Drive" Wrought Iron for wood or brick	15%

HUMIDIFIER

"Front-Rank," Automatic	
In single lots	50%
In lots of 10 or more	50-5%
In lots of 25 or more	50-10%
Vapor pans, etc., each	50%

LIFTERS

Steve Cover	
Coppered	per gro. \$6 00
Alaska	per gro. 4 75

MALLETS

Tinners	
Hickory	per doz. \$3 25

MITRES

Galvanized steel mitres	
28 Ga.	70
26 Ga.	60-80

NAILS

Cut Steel, base	\$4 00
Wire	
Common	\$3 25
Cement Coated	3 25

(Continued on page 32)

Hardened Screwnails.....

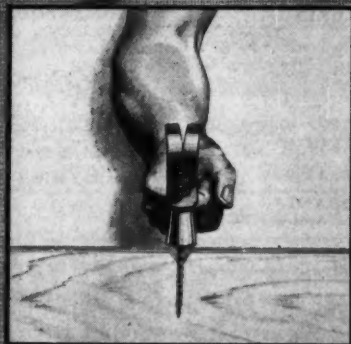
*An exceptionally strong
method of fastening
sheet metal to wood!*



No need to punch a hole...
sharp needle point pierces
sheet metal with ease.



Hardened spiral thread forms
a thread in the sheet metal
and wood as you drive it in.



Anchors the sheet metal
securely to the wood—
won't back out.

... 4 times the holding power of ordinary nails..

By combining the easy driving qualities of a nail with the strong holding qualities of a screw, Parker-Kalon Hardened Screwnails provide the ideal means of fastening sheet metal to wood..

Hardened Screwnails can be driven through much heavier sheet metal than ordinary nails without bending—in most cases doing away with drilling or punching holes in the sheet metal.

As the Screwnail is driven in, its hardened spiral thread cuts into the burr it has formed in the sheet metal, as well as into the wood, locking the sheet metal securely to the wood. Laboratory tests show that these unique Nails have over 4 times the holding power of ordinary nails. Even under expansion or contraction they will not back out, pull out or loosen.

Screwnails can be used to advantage by sheet metal workers, roofers, fireproof window and door manufacturers, automobile manufacturers and body builders, railroads, sign makers, refrigerator manufacturers and others who fasten sheet metal to wood in the manufacture of their products.

Return the coupon for samples of Hardened Screwnails. Try them on your work. See how much better they are than ordinary nails.

PARKER-KALON CORPORATION
190 VARICK STREET NEW YORK

PARKER-KALON CORPORATION,
190 Varick Street, New York

Please send me a handful of Hardened Screwnails. I want to try them out for

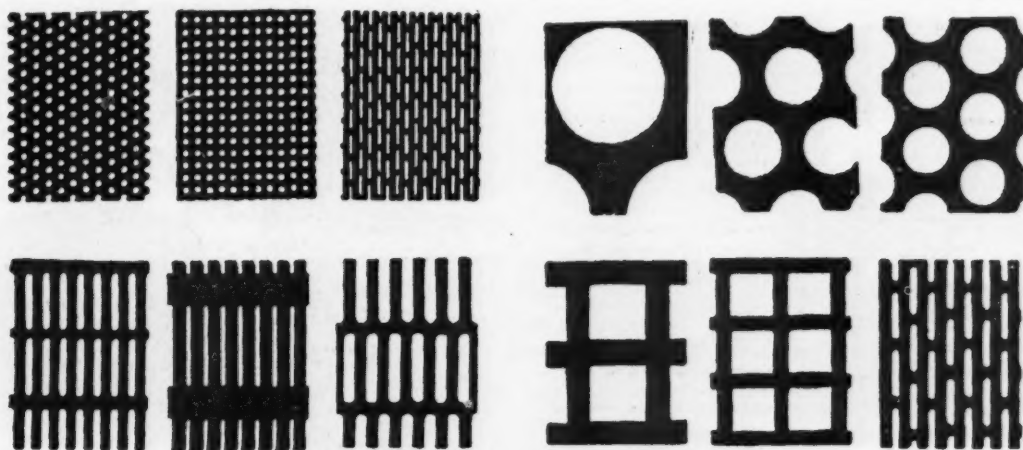
Name.....

Address.....

PARKER-KALON HARDENED Screwnails

PATENTED JAN. 28, 1924—No. 1482151
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PERFORATED METALS



All Sizes and Shapes of Holes in all Kinds and Thicknesses of Metal.
Punched Metal Grilles, Register Faces, Ventilators, etc.
Guard Material for Machines and Belts. We supply a complete line of Accessories
Screens for Grain, Minerals or anything to be screened.
Perforated Tin and Brass always in stock

THE HARRINGTON & KING PERFORATING CO.

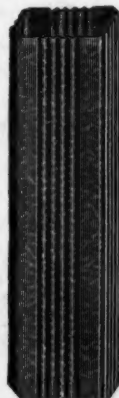
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IN WOOD and IRON

VEDDER PATTERN WORKS ESTABLISHED 1835 TROY, N. Y.

IRON AND WOOD

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EARLE'S VENTILATOR

IMPROVED
REVOLVING



It runs in a self-lubricating bearing that is not affected by heat or cold. It is noiseless and produces an upward current of air. No down draft. It will satisfy and give you a good profit.

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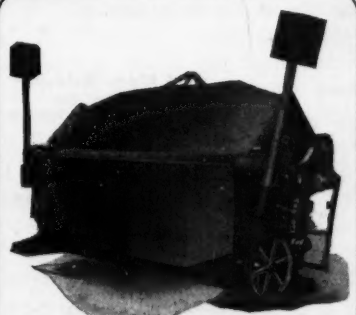
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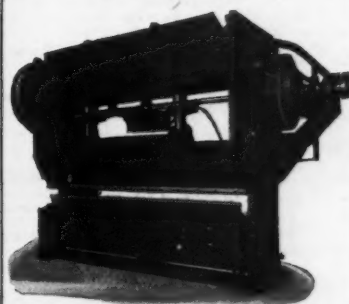
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The perfected result of over 30 years experience in the manufacture of sheet metal bending machines. Over 25,000 machines in use.



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Special Brakes and Presses



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The most complete and up-to-date line of sheet and plate bending and forming machines in the world. Lengths, 3 to 16 feet, with capacity to bend from the lightest metals up to $\frac{3}{4}$ in. plate, cold.

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WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

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THE KIRK-LATTY CO.

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The NEW IMPROVED "STANDARD"

ROTABLE VENTILATOR

THIS favorite ventilator has been further improved to insure—

New made of ARMCO IRON

Greater Durability
Quieter Operation
Greater Efficiency
Better Balance



"Standard" Ventilator and Chimney Cap—
Most Efficient Combination on the market.

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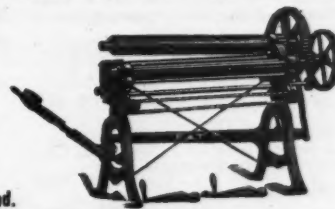
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(Continued from page 34)

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Columbus, Ohio
Meyer & Bro. Co., F., Peoria, Ill.
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Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

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Philadelphia, Pa.
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New Jersey Zinc Sales Co., The,
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Wheeling Corrugating Co.,
Wheeling, W. Va.

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La Salle Machine Works,
Chicago, Ill.
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Southington, Conn.
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Punches—Hand.

Hyro Mfg. Co., New York, N. Y.
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Chgo., N. Y., St. L., Det., Cleve.

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Connors Paint Mfg. Co., Wm.,
Troy, N. Y.

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Tuttle & Bailey Mfg. Co.,
Chicago, Ill.

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Ranges—Combination Gas & Coal.

Thatcher Co., Newark, N. J.

Register Shields.

Beh & Co., Inc., New York, N. Y.
Hall-Neal Furnace Co.,
Indianapolis, Ind.

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Forest City Waiworth Run
Foundries Co., Cleveland, Ohio
Hart & Cooley Co.,
New Britain, Conn.
Henry Furnace & Fdy. Co.,
Cleveland, Ohio
Independent Register & Mfg. Co.,
Cleveland, Ohio
Lamneck & Co., W. E.,
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Meyer & Bro. Co., F., Peoria, Ill.
Milwaukee Corrugating Co.,
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Mueller Furnace Co., L. J.,
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Tuttle & Bailey Mfg. Co.,
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Auer Register Co., Cleveland, Ohio
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Mueller Furnace Co., L. J.,
Milwaukee, Wis.

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Chicago, Ill.
H. M. Sheer Co.,
Chicago, Ill.
Thermo-Control Regulator Co.,
Youngstown, Ohio

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Lupton's Sons Co., David,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
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Rivets—Stove.

The Kirk-Latty Co.,
Cleveland, Ohio
Lamson & Sessions Co.,
Cleveland, Ohio
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Chgo., N. Y., St. L., Det., Cleve.

Rods—Stove.

The Kirk-Latty Co.,
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Bertsch & Co.,
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Connors Paint Mfg. Co., Wm.,
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Roof—Flashing.

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Friedley-Voshardt Co.,
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Inland Steel Co.,
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Mil., Ch'go, La Crosse, Kan. City
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Cleveland, Ohio
Ryerson & Son, Inc., Jos. T.,
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Wheeling Corrugating Co.,
Wheeling, W. Va.

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Taylor Co., N. & G.,
Philadelphia, Pa.
Wheeling Corrugating Co.,
Wheeling, W. Va.

Roofing Tools.

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Roofing—Zinc.
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New York, N. Y.

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Schools—Sheet Metal Pattern

Drafting.

St. Louis Technical Institute,
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St. Louis Technical Institute,
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Parker-Kalon Corp.,
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Screws—Hardened Self-Tapping.

Sheet Metal.
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Interstate Machinery Co.,
Chicago, Ill.
Marshalltown Mfg. Co.,
Marshalltown, Iowa
Peck, Stow & Wilcox Co.,
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Ryerson & Son, Inc., Jos. T.,
Chgo., N. Y., St. L., Det., Cleve.
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Trade Extension.

Copper & Brass Research As-
sociation, New York, N. Y.
Sheet Steel Trade Extension
Committee, Pittsburgh, Pa.

Trimings—Stove.

Fanner Mfg. Co., Cleveland, Ohio

Ventilators.

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Akrot Ventilators, Inc.,
Chicago, Ill.
Arex Company,
Chicago, Ill.
Berger Bros. Co.,
Philadelphia, Pa.
Friedley-Voshardt Co.,
Chicago, Ill.
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Chicago, Ill.
Lupton's Sons Co., David,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City
Standard Ventilator Co.,
Lewisburg, Pa.

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Hart & Cooley Co.,
New Britain, Conn.
Henry Furnace & Fdy. Co.,
Cleveland, Ohio

Windows—Steel.

Lupton's Sons Co., David,
Philadelphia, Pa.

Zinc.

New Jersey Zinc Co., The,
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Mention AMERICAN ARTISAN in your reply—Thank you!

WANTS AND SALES

Yearly subscribers to the **AMERICAN ARTISAN** may insert advertisements of not more than fifty words in our Want and Sales Columns **WITHOUT CHARGE**.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired and must reach our office by Thursday of the week of publication. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines—employment agencies and brokers.

When sending advertisement state whether your name or blind number is to be used.

BUSINESS CHANCES

Lightning Rods—Dealers who are selling **Lightning Protection** will make money by writing to us for our latest **Factory to Dealer Prices**. We employ no salesmen and save you all overhead charges. Our **Pure Copper Cable and Fixtures** are endorsed by the **National Board of Fire Underwriters** and hundreds of dealers. Write today for samples and prices. **L. K. Diddle Company, Marshfield, Wis.**

For Sale—Well established sheet metal, plumbing and heating business. Modern town, 1,500 population in N. W. Colorado. Large stock. Agricultural and oil development territory. Good tools, machines and clean stock. Invoice about \$3,000.00. Good location, reasonable rent, good prospect for live man. Old age reason for selling. Address A. E. Lytle, Box 455, Meeker, Colorado. **P-496**

For Sale—Sheet metal cabinet factory, making letter files, typewriter stands, auto trunks, wardrobes, tool boxes and radio cabinets. Machines are electric drilling, spot welder, pan and box machine, hand and power punches, rolls, crimpers, squaring shears and other small machines. City of 15,000 in southern Minnesota. Price to sell, \$1,500. Address Y-495, **AMERICAN ARTISAN**.

For Sale or Exchange—General sheet metal furnace and roofing business, located on west side of Chicago. Great chance for a mechanic who wants to get ahead. Established 27 years; fully equipped; ideal location. Will sell at a bargain and assist buyer to get started. Wish to retire on account of age and health. Address X-495, **AMERICAN ARTISAN**.

For Sale—Well equipped and paying sheet metal shop, operated in connection with, but independent of large hardware store in suburb of large Ohio city. Work comes in without soliciting. Fine proposition for one or two good men. \$1,000.00 will buy all. Must act quick. Owner in other line and can't handle. Address O-496, **AMERICAN ARTISAN**.

I will invest \$500.00 to \$1,000.00 if I can find a first class mechanic and a salesman to each invest the same amount and open a retail furnace store in Moline, Galesburg, Aurora, Joliet or Waukegan, Ill. Give full particulars in your first letter. Address R-496, **AMERICAN ARTISAN**.

Wanted to Buy—Good sheet metal shop in Chicago or within 40 miles of Chicago. Address Z-495, **AMERICAN ARTISAN**.

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For Sale—Hardware, paints, radio. Illinois town 7,000. Business cleared \$3,600 last year. Must sell on account of ill health. Partners both under doctor's care. Equipment and going business, \$1,600. Stock invoices approximately \$17,000. Terms. Mielke Bros., Danville, Ill. **W-495**

SITUATION WANTED

Situation Wanted—As working foreman by a first class all-around sheet metal worker. Can read blue prints, lay out patterns, make and erect any kind of work that may come to any job shop. Can handle men. Have had twenty-five years at the trade. Married, and can furnish reference. Address Edward H. Collins, P. O. Box 158, Mayfield, Kentucky. **H-496**

Want to hear from square, reliable firm or firms who have something with a future to it, for a good reliable furnace man and sheet metal worker. Knowledge and experience above that of the average in general work and technic. For full particulars write, stating compensation and particulars in detail. Address J. D. Grace, P. O. Box 175, Elmer, Mo. **T-495**

Situation Wanted—By first class heating and ventilating man. Have had 27 years' experience. Married and sober, can cut all my own patterns. Make any fittings, work from blue prints and do estimating. Can take charge of shop and handle men. Address Bert J. Hawkins, 117 Galusha St., Owosso, Michigan. **T-496**

First-class sheet metal worker, furnace installer and pattern cutter wants position. Have had 20 years' experience. Prefer Illinois. Those who have "jack-of-all-trades" jobs, such as plumbing, lightning rod and clerk in store, need not reply. Address S-495, **AMERICAN ARTISAN.**

Situation Wanted—By an all-around, capable sheet metal worker. Lay out, assemble and erect any branch of same. Work from blue prints. Married, best of health, capable of taking charge of shop and not afraid of work. Address F-496, **AMERICAN ARTISAN**.

Experienced bookkeeper and office man would like to correspond with Hardware or Implement Dealer in need of competent man to take charge of the Accounting and Collections. Address Edwin P. Anderson, 329 North Fifth, Keokuk, Iowa. **G-496**

Wanted—Steady position as sheet metal and radiator man. Can do all kinds of tin work. Would like to get job in small town in Minnesota with good school. Address, Wm. O. Thompson, Box 162, Cokato, Minn. **D-496**

Situation Wanted—By an all around man with 28 years' experience in tinning, plumbing, steel ceiling and all kinds of heating, etc. Wants a position in Wisconsin or Iowa. Address S-496, **AMERICAN ARTISAN**.

Situation Wanted—By an all-around plumber and tinner. Sixteen years' experience. Can handle hot water and steam heat. Married and sober. Address L. C. Stoakes, 205½ E. Main St., Anamosa, Iowa. **E-496**

First-class helper. Plumber and tinner helper with two years' experience; good reference; married, sober, honest and reliable. Must be steady work. Address Denny L. Munn, Spickard, Mo. **R-495**

Young man with eight years' experience in warm air furnace sales and installations, thoroughly familiar with Standard Code, seeks connection. Address P-495, **AMERICAN ARTISAN.**

HELP WANTED

Wanted—Sheet metal worker about 40 years of age who has had experience in general factory work of making up heavy sheet metal for different parts of machinery. If not qualified do not answer this ad. Steady position in a town of 15,000 in northern Illinois. Address K-495, **AMERICAN ARTISAN**.

HELP WANTED

Wanted—Active partner in sheet metal and electric sign shop. One who can take full charge of shop, do estimating and draft his own patterns. Plant situated in southern town of 140,000 population. Our shop is one of the best equipped in the south for handling sheet metal and electric sign work. Very small capital necessary. Address X-496, **AMERICAN ARTISAN**.

Wanted—First class sheet metal worker that understands job work and does neat work. Must know how to read blue prints and work from same. Steady job year round. No lay offs. Good wages. Good job for the right man. Address J. H. Barnett's Sheet Metal Works, 312 W. Front St., Dodge City, Kansas. **B-497**

Wanted—Experienced combination sheet metal worker and plumber in all branches of the trade. Must be first-class mechanic. Must give age, reference and wages wanted for year around work in first letter to receive consideration. Address Milton L. Kistler, Alexander City, Ala. **O-495**

Wanted—Good all around man who can do all kinds of sheet metal work, plumbing and heating. Steady job for the right man. We prefer a fairly young man. This is one of the best towns of 3,000 in the Northwest. State when can come and what wages you want. Address A-497, **AMERICAN ARTISAN**.

Wanted—Good all around man who can do all kinds of sheet metal work, heating and plumbing. Must have plumber's license. Permanent position for right man. One of the best small towns in Illinois. Give full particulars first letter. Address The Geo. P. Hindert Hardware Co., Minonk, Ill. **M-495**

Can use a good sheet metal worker and furnace man in city of 30,000. Steady work the year around to right man of ability and habits. State qualifications and pay wanted in first application. Address Klinsmann Furnace & Metal Products Co., Box 1163, Fargo, N. D. **Z-496**

Wanted—General all around sheet metal and furnace man for work such as eaves, roofing, furnace repair, installation, etc. Some knowledge of pipe work and plumbing. Either married or single. Prefer non-Catholic. Address C-497, **AMERICAN ARTISAN**.

Wanted—Sheet metal worker used to square duct ventilation and furnace work. State wages wanted and qualifications in answer. Address Noble Sheet Metal Works, 119 S. Stevens St., Rhinelander, Wis. **W-496**

Wanted—First class furnace and sheet metal worker, one that can lay out jobs on furnace and do roof work. Will pay \$35.00 per week for start. Address L. O. Nicholson & Son, 326 S. Jefferson St., New Castle, Pa. **Y-496**

Wanted—First-class sheet metal worker and ventilating man. State experience and age in first letter. Located in north-eastern Iowa. Address L-495, **AMERICAN ARTISAN**.

TINNERS' TOOLS

For Sale—One wiring machine with stand—\$11.50. One setting-down machine with stand—\$10.00. One bar folder with stand—\$16.00. One 50"x4" slip rolls with stand—only used on one job—good as new—\$200.00. All machines are in A1 condition. Address E-497, **AMERICAN ARTISAN**.

For Sale—Full set of tinner's tools. Also some stock. Tools all in good condition, some nearly new. Send for list and price. A good location for a tinning, furnace and plumbing shop. Address L-496, **AMERICAN ARTISAN**.

For Sale—Spot welding machine in very good condition. First \$100 check takes it. Address Accurate Sheet Metal Works, 2432 Milwaukee Avenue, Chicago, Illinois. **K-496**

TINNERS' TOOLS

Wanted to Buy—General sheet metal shop in large southern city desires to buy second-hand power press or toggle press. Give full information and price. Address B-496, AMERICAN ARTISAN.

For Sale—One 6-foot Robinson brake. In good condition. Price \$75. f. o. b. Hamilton, Ohio. Address Korn Heating Co., 923 Ludlow St., Hamilton, Ohio. A-496

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For Sale—One 21 in. P. S. & W. tin folder, good as new, for \$20.00. Address Harry Lyman, Clarinda, Iowa. D-497

Wanted—A set of tinnners tools or what pieces have you for sale? Address M-496.

MISCELLANEOUS

For Sale—Course on sheet metal design and pattern drafting. Address H-495, AMERICAN ARTISAN.

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Splendid opportunity, permanent opening in Central Western city for an experienced skilled mechanic in construction of furnace fittings. State full particulars and references—all replies held confidential. Address F497, American Artisan, 620 So. Michigan Ave., Chicago.

WE WANT MANUFACTURERS AGENTS

calling on Oil Burner Manufacturers and Dealers, also furnace and boiler manufacturers to handle a product that is a valuable accessory to these sources. Address G497, American Artisan, 620 So. Michigan Ave., Chicago, Ill.

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Manual of Automotive Radiator Construction and Repair, by F. L. Curfman and T. H. Leet—Anyone interested in Radiator Repairing will find the 185 pages of practical instructions and the 120 illustrations showing actual construction and repairing a big help. In a condensed manner some four to five thousand answers to questions are given. It is thoroughly practical as both authors are men of wide experience in this work. Printed in large, easy to read type. Measures 5 1/2 x 9 inches. Price \$2.50. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

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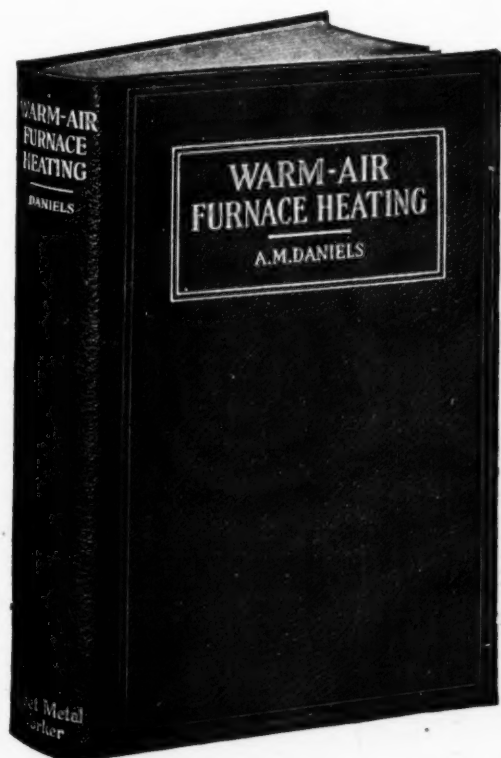


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5. Heat Losses.
6. Effect of Register-Air Temperature, Leader Area and Size of Wall Stack Upon Heating Effect Produced.
7. Insulating Coverings and Their Effect Upon Leader and Wall Stack Operation.
8. Casing Diameter vs. Furnace Capacity.
9. Air Supply to Furnace.
10. Furnace Capacity and Rating.
11. Register Grilles vs. Plant Capacity.
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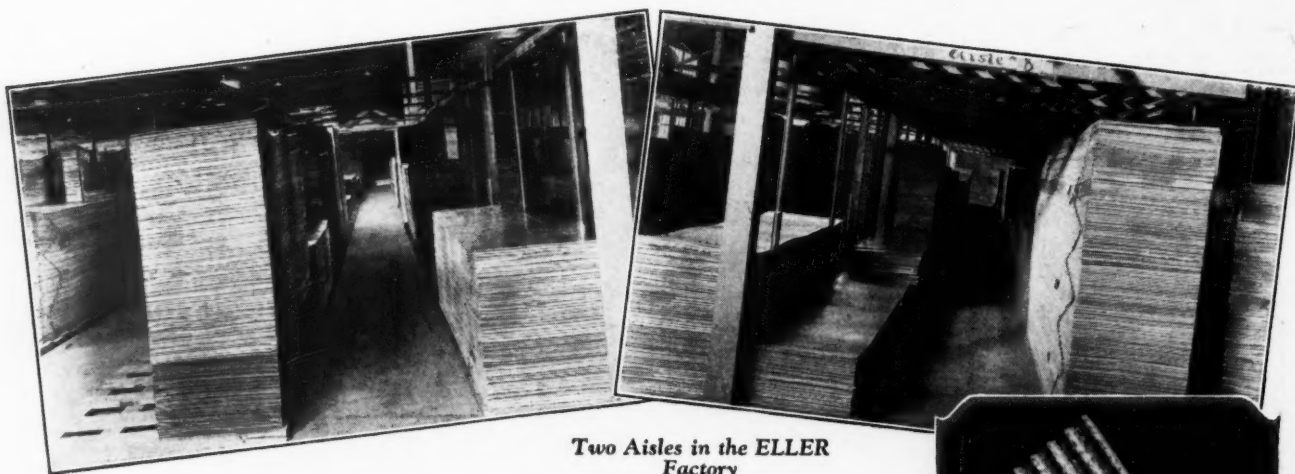
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